ARCHITECTURAL RECORD

JUNE 1948

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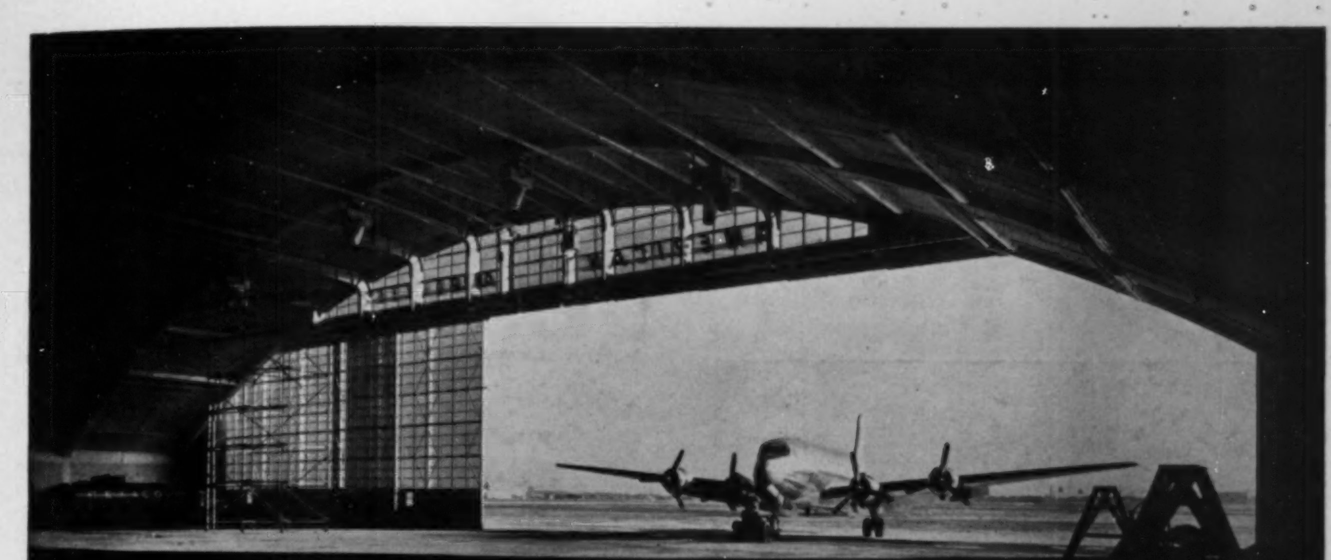
(Regular Edition) executive offices at 119 W. 40th St., New York 18, N. Y. $4.50 per year; Foreign, $6.50.

Entered as second-class matter at the Post Office, Concord, N. H., under the Act of March 3, 1879.



Two concrete hangars for American Airlines, Chicago, each with 257 ft. clear span, 235 ft. door opening, and an acre of unobstructed floor space, provide elbow room for largest planes.

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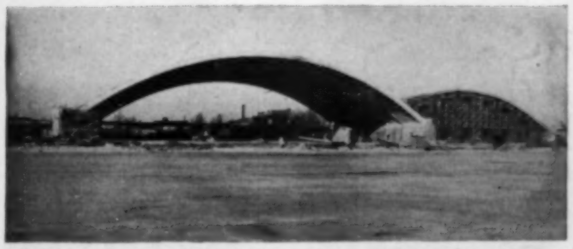

THE nation's largest commercial airline hangar, recently completed for American Airlines at Chicago, dramatically expresses the adaptability of concrete in the hands of imaginative designer and concrete-minded constructor. Of thin-shell, arch-rib construction, the building consists of two reinforced concrete hangars and leanto space, all part of one structure. Each hangar has an acre of unobstructed floor area. Hangar doors provide clear openings of 235 x 41 ft.; an additional opening accommodates a tail 54 ft. high. The hangars can easily house even the largest commercial planes, as well as latest military craft with 230-ft. wing span.

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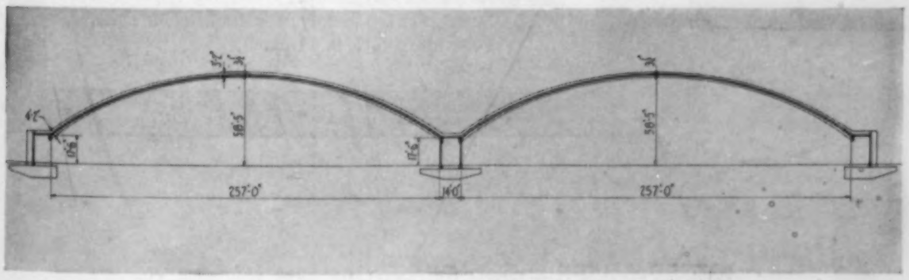

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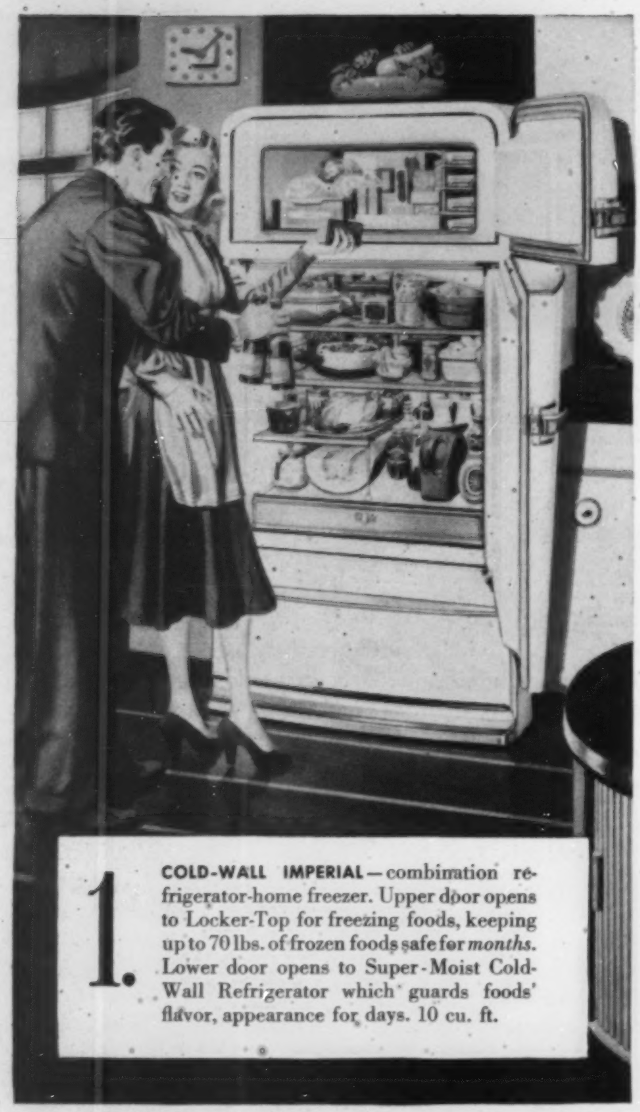

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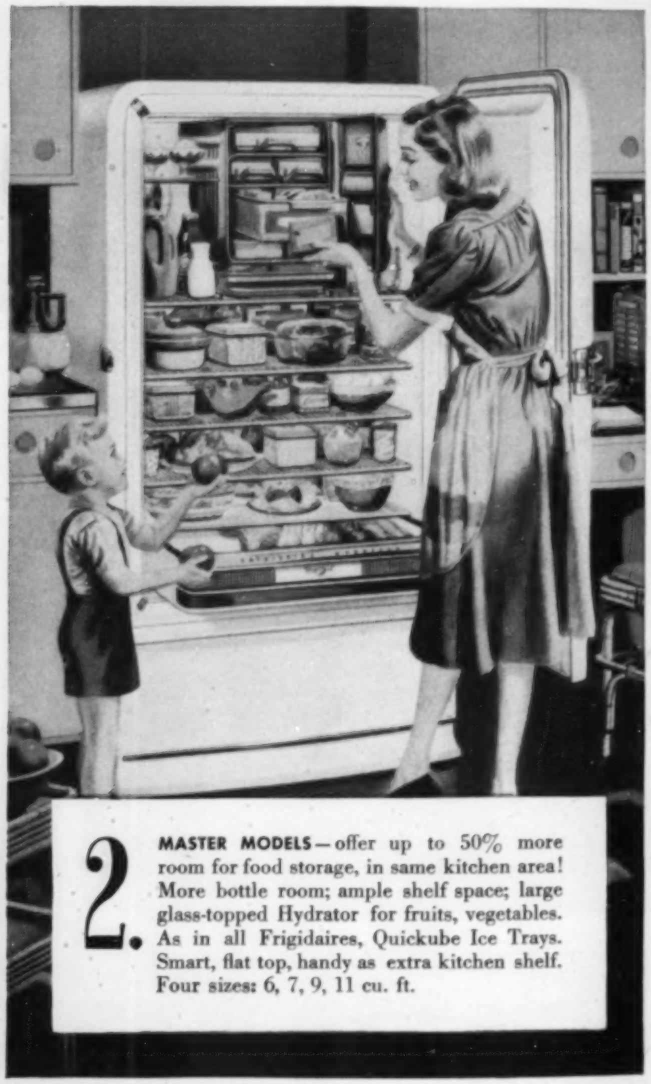

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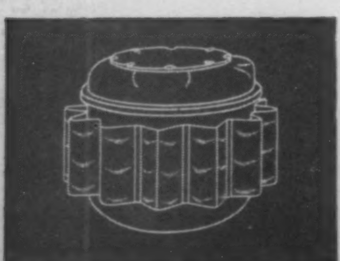

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BYERS IRON

Moving into this new apartment— RADIANT HEATING with Byers Wrought Iron Pipe

Latest multi-family project reported as using radiant heating is the Columbian Apartments, a 36-unit building, FHA approved and financed under "608". The heating installation is doing an important preliminary job, by speeding the drying-out of the construction materials. Tenants are moving in as rapidly as decoration is completed. Byers Wrought Iron pipe, in ¾-inch and 1-inch sizes, was used exclusively for the coils.

WIDE APPLICATION

Radiant heating with Byers Wrought Iron pipe has been installed in a dozen or more multi-family, multi-story structures. With today's high costs, every square foot of floor space is precious, and radiant heating permits every square foot to be utilized, with no restrictions on furniture placement, and no curtailment of living area.

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LITERATURE AVAILABLE

Our bulletin, "Byers Wrought Iron for Radiant Heating", is a complete treatise on the subject, discussing principles; calculation methods; layout; installation; and results. We will be glad to send you a copy.

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ARCHITECTURAL

RECORD

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Architectural Record (combined with American Architect and Architecture) is published monthly by F. W. Dodge Corporation, 10 Ferry St., Concord, N. H., with Editorial and Executive Offices at 119 West 40th Street, New York, N. Y. Western Editorial Office, 2813 Channing Way, Berkeley, Calif. Thomas S. Holden, Pres.; Howard J. Barringer, Vice-Pres. and Treas.; Irving W. Hadsell, Vice-Pres.; Chauncey L. Williams, Vice-Pres.; Sanford D. Stockton, Jr., Secy.; Walter F. De Saix, Asst. Treas.; Edwin H. Freed, Asst. Treas. Member Audit Bureau of Circulation and Associated Business Papers, Inc. Architectural Record is indexed in Reader's Guide, Art Index and Industrial Arts Index. Subscription rates: United States and Possessions, Canada, Cuba, Mexico, Central and South America, and Spain, $4.50 the year, $7.50 for two years, $9 for three years; elsewhere, $6.50 the year, $11.50 for two years, $15 for three years. Single copy, $1. Circulation Manager: Marshall T. Ginn. Every effort will be made to return material submitted for possible publication (if accompanied by stamped, addressed envelope), but the editors and the corporation will not be responsible for loss or damage. Other Dodge Services: Real Estate Record & Builders' Guide, Sweet's Files, Home Owners' Catalogs, Dodge Reports & Dodge Statistical Research Service.

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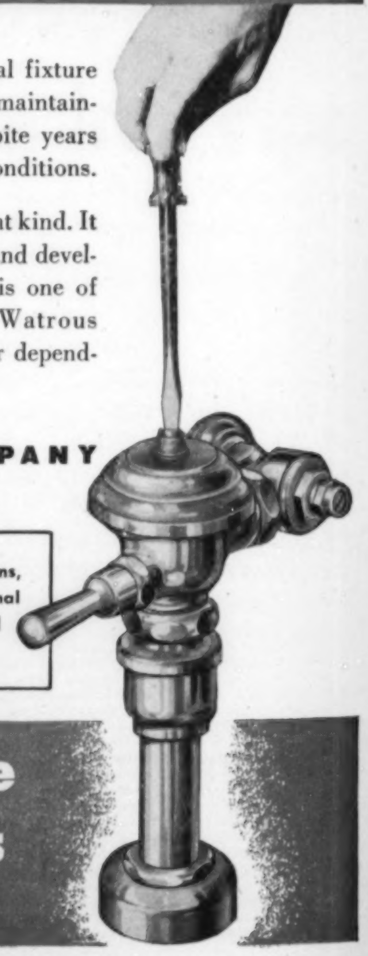

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THE RECORD REPORTS

Allocations Ahead; Shelf of Controls Asked; Housing Bill Compromises Drawn; Steel Outlook Uncertain; Building Spurts when Spring Comes

As the first half of 1948 draws to a close, three major governmental influences appear in the housing picture.

First, the voluntary allocation of scarce commodities, which got the green light from Congress last fall, is taking definite form.

Second, the new defense program with its additional call on materials brings talk of a partial war economy with resultant controls.

Third, the revised general housing legislation (Taft-Ellender-Wagner Bill) promises to affect the long-term prospects in housing.

Voluntary Plans Drawn

Of the four major items in the voluntary allocation program, as worked out under the aegis of the Department of Commerce, freight cars and housing have moved along best, petroleum equipment and farm equipment not so well. Steel allocations have been promised to keep freight car construction up to 10,000 a month.

In housing, most active work has been done in the cast iron industries — soil pipe, pressure pipe, radiation and lower pressure boilers, warm air furnaces, enamel ware fixtures, plumbing drainage fixtures. Advisory committees from all groups have conferred with the Department and, in all but one instance, have favored a voluntary program.

After the preliminary conferences, an overall figure on pig iron requirements had to be studied by a Commerce Department committee to work out a schedule of the number of tons for each category. On completion of the schedule, the individual industries proceed with their procurement. Some of the cast iron industries — furnaces, for instance — also use steel, and sessions were to follow subsequently on steel needs.

All of the programming, it should be pointed out, is geared to a total of one million homes for the year.

Advisory committees were formed for the gypsum board and lath and the plywood industries, but meetings disclosed that their problem was one of distribution, a field into which the voluntary allocation program does not reach.

Controls May Return

Practically everybody in Washington except the Congressional leaders who would have to pass the requisite bills expects some economic controls to come back. There is a kind of fatalistic waiting, as for the depression. It isn't a matter of politics, so it is argued, or of bureaucratic aggrandizement. "It's in the cards," people say, and go on to explain why.

The military budget will steadily expand. During the immediate 1948–49 fiscal year not much will be spent; it will be a year for letting contracts. More will be spent in the 1950 year, and as for 1951, that will be a year to be reckoned with. The contracts let now will mature. Slowly rising capital plant of the Armed Services will be taking bigger outlays for maintenance.

Shelf of Controls Asked

The military high command, Forrestal especially, press the point at every opportunity that you can't rebuild the Services simply by spending money. You must order steel, wood and other products — and you must be sure that you get them. To make sure, you might need to slip a legally enforceable priorities ticket into your purchase order, or you might need to allocate the major materials in the first place.

Congressional leaders, naturally enough, campaign against the idea of economic controls. But the campaign speeches, if carefully read, usually contain, so to speak, some out-clauses, accepting the curbs that the exigencies of defense might force. Indeed, the old Defense Committee of the Senate recently went much further: it called in simple language for a shelf of control legislation that might be put into effect fast in case of war. The controls asked for went a little further than those of 1942–45.

This does not mean, of course, that the old wartime L-41 Order is about to be restored. But over the longer pull the very materials used in construction might also be needed by the military. If they are, the military will come first. This includes steel, pig iron, possibly lumber, and certainly labor. The experts of the departments see some possibility, though not much, that all this can be avoided.

Housing Bill Passed

The Taft-Ellender-Wagner housing bill got through the Senate. Major clash arose over the public housing feature, but the Cain amendment to eliminate this was rejected by a vote of 49 to 35, although it was known that there was strong opposition to this feature in the House. The House-approved extension of NHA Title VI loans was made part of the bill.

An anticipated clash between Senator McCarthy, Vice Chairman of the Joint Housing Committee, and Senator Taft over the McCarthy proposals failed to materialize as the two Senators worked out a series of compromises.

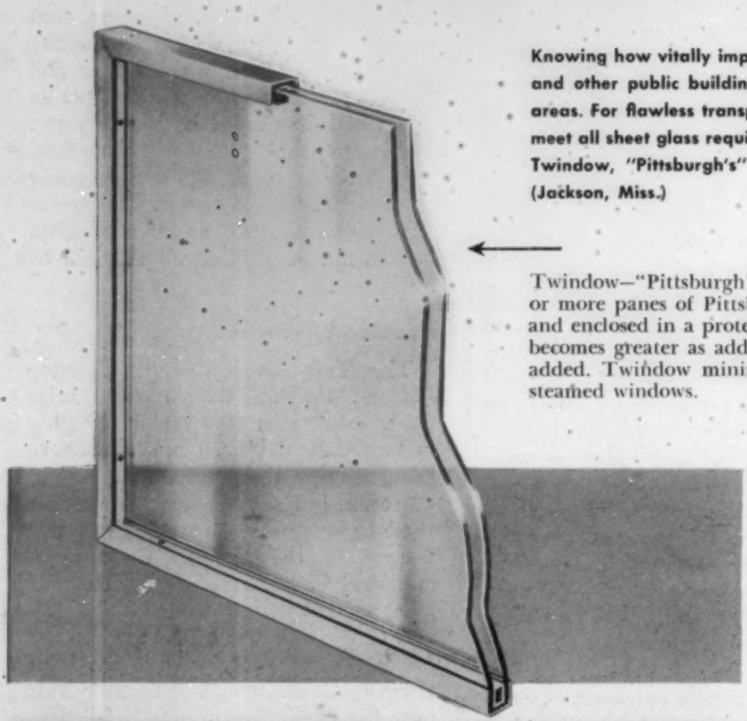
(Continued on page 10)

PLYWOOD CORP
SANDWICH PANELS TO TAKE OUT
Alan Dunn

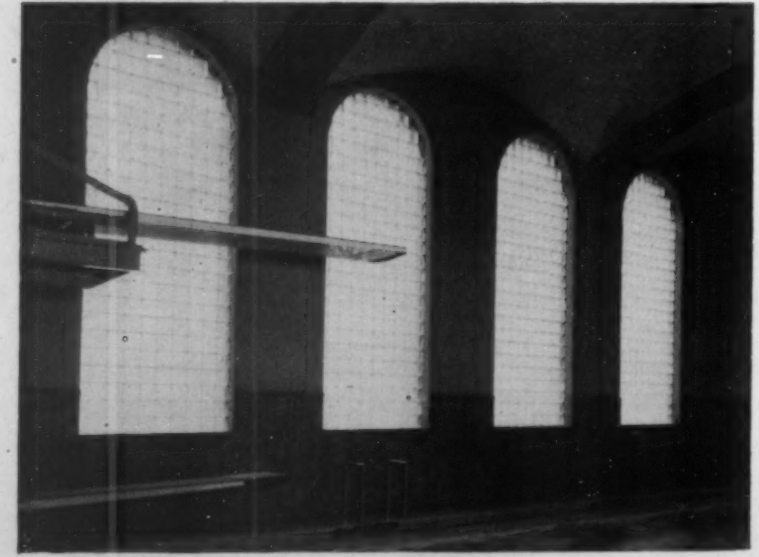
Drawn for the RECORD by Alan Dunn

New uses of *Glass* i

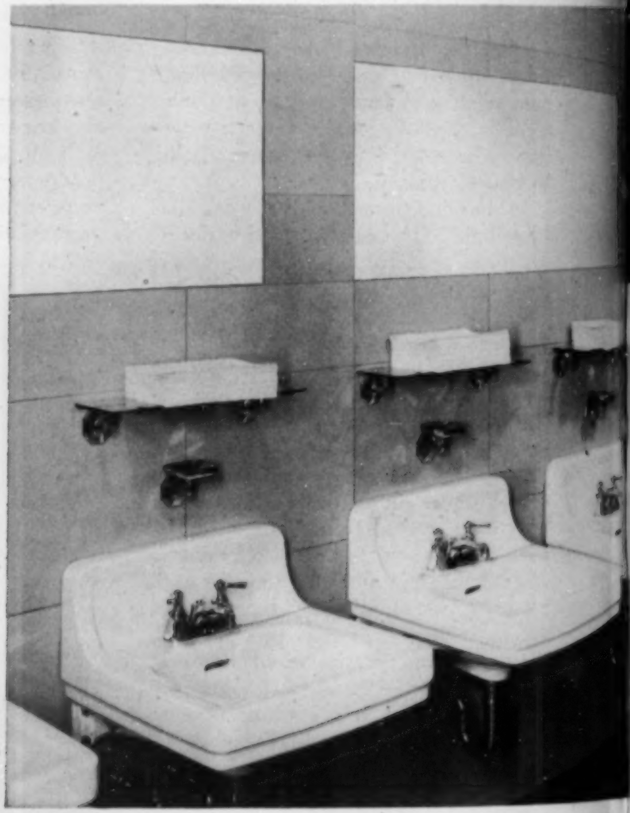
Knowing how vitally important it is to select the proper glazing material for the windows of schools and other public buildings, many architects have standardized on Pittsburgh Glass to glaze such areas. For flawless transparency and maximum surface beauty—Pittsburgh Polished Plate Glass. To meet all sheet glass requirements—Pennvernon Window Glass. And for greater insulating efficiency—Twindow, "Pittsburgh's" new window with built-in insulation. Architects: Overstreet and Town. (Jackson, Miss.)



Twindow—"Pittsburgh's" new window with built-in insulation, consists of two or more panes of Pittsburgh Glass separated by hermetically sealed air spaces, and enclosed in a protecting frame of stainless steel. Its insulating effectiveness becomes greater as additional panes of glass with corresponding air spaces are added. Twindow minimizes downdrafts, cuts heating costs, helps to prevent steamed windows.



Little wonder that Pittsburgh Corning Glass Blocks are so popular for swimming pool enclosures. These blocks transmit daylight generously. They preserve privacy. And besides being exceptionally attractive in appearance, they have excellent insulating properties that contribute to uniform, economical heating. Architects: Bebb & Jones. (Seattle)



Easy-to-clean—exceptionally good looking, Carrara Structural Glass is ideally suited for public washroom walls, stiles and partitions. Carrara is impervious to moisture, chemicals, pencil marks. It won't fade or stain or absorb odors. It won't check or craze. It is easy to keep spotlessly clean. Available in 10 pleasing colors. Architect: R. A. Spahn. (Cleveland, Ohio)

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THE RECORD REPORTS

(*Continued from page 7*)

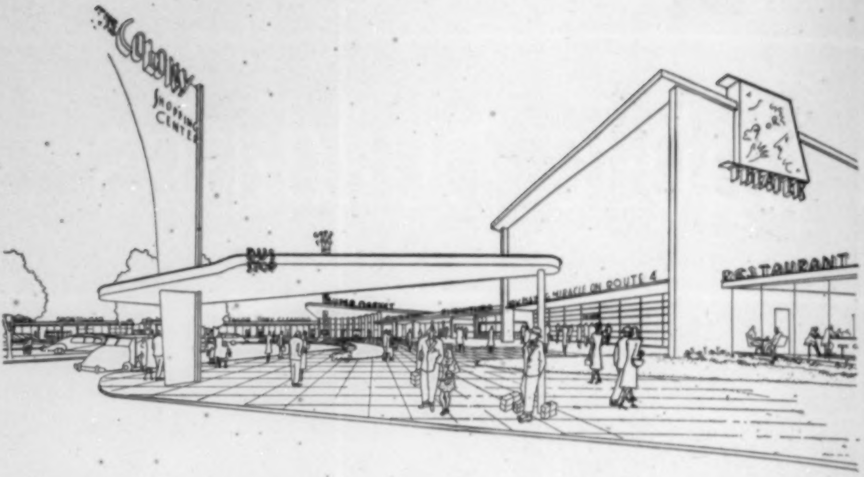
Among Senate amendments of note are provisions for farm housing ($25 million for the first year's operation), a $4500 limit on Title I loans, and an increase from 4 per cent to 4½ per cent in the maximum interest rate on G.I. loans. The bill generally provides a corporation to buy, as a secondary mortgage market, FHA and VA loans; it provides for housing research, rental housing, yield insurance, slum clearance and urban redevelopment, as well as public housing.

Steel Outlook Mixed

The European Cooperation Administration, in carrying out the Marshall Plan, will have far-reaching effects on domestic business. Since the inception of the Plan, questions have arisen as to how it will ramify into various industries. A recent study by the House Select Committee on Foreign Aid goes into the role of steel in the program for European recovery.

This study points up the following

(*Continued on page 12*)



Shopping center planned for Bergen County, N. J.; Kelly and Gruzen, Architects

BUILDING NOTES

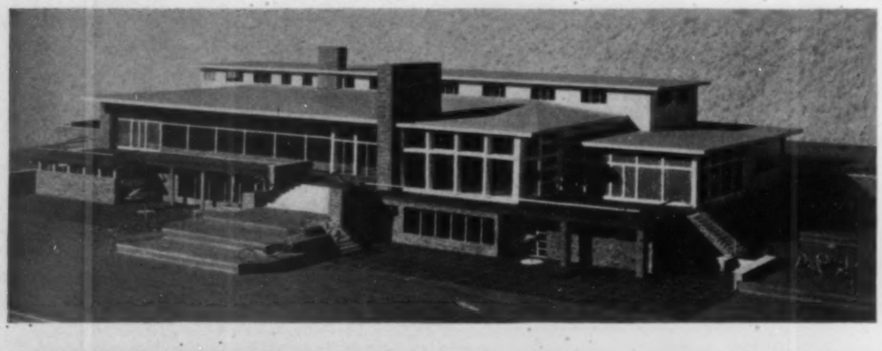
Business Center

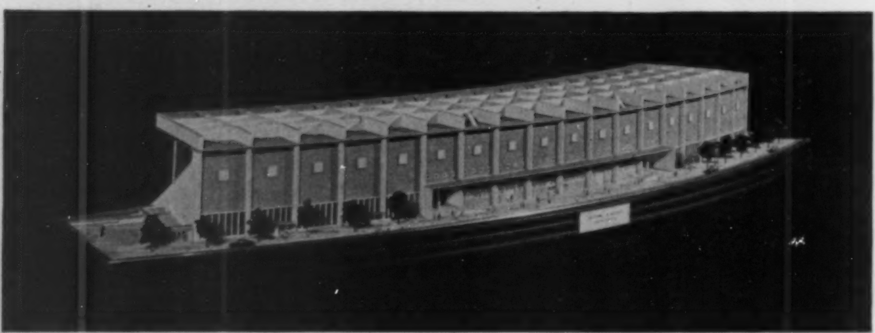
A $6,000,000 business center containing a major department store, a market, specialty stores and a 2000-seat cinema, is planned for Bergen County, N. J., on Route 4, at North Hackensack. It will have a frontage of over 3000 ft. on State Highway 4, the most heavily traveled route in northern New Jersey, and the principal artery linking New Jersey and New York via the George Washington Bridge. An average traffic flow of 23,000 motor vehicles per day past the site, according to a recent official count, makes it an ideal spot for such a center.

(*Continued on page 174*)

NEWS FROM CANADA

By John Caulfield Smith





Two new projects among many others that are adding up to a sizable building program for Canada, despite controls and materials difficulties. Upper photo, model of a golf and country club building, Kaplan & Sprachman, architects. Lower, model of a new grandstand for the C.N.E., Toronto, Marani & Morris, Architects

Provinces Aid Housing

A bill to accelerate production of new housing has been enacted by the government of Ontario. Designed for flexible administration, it provides for financial commitments totaling upwards of $30 million.

The money may be spent in the following ways: (1) up to $10 million to reduce down payments required on new houses; (2) up to $2 million to encourage improved construction methods; (3) up to $15 million to assist in redevelopment of blighted urban areas; and (4) up to $3 million to enable municipalities to provide sites for rental housing.

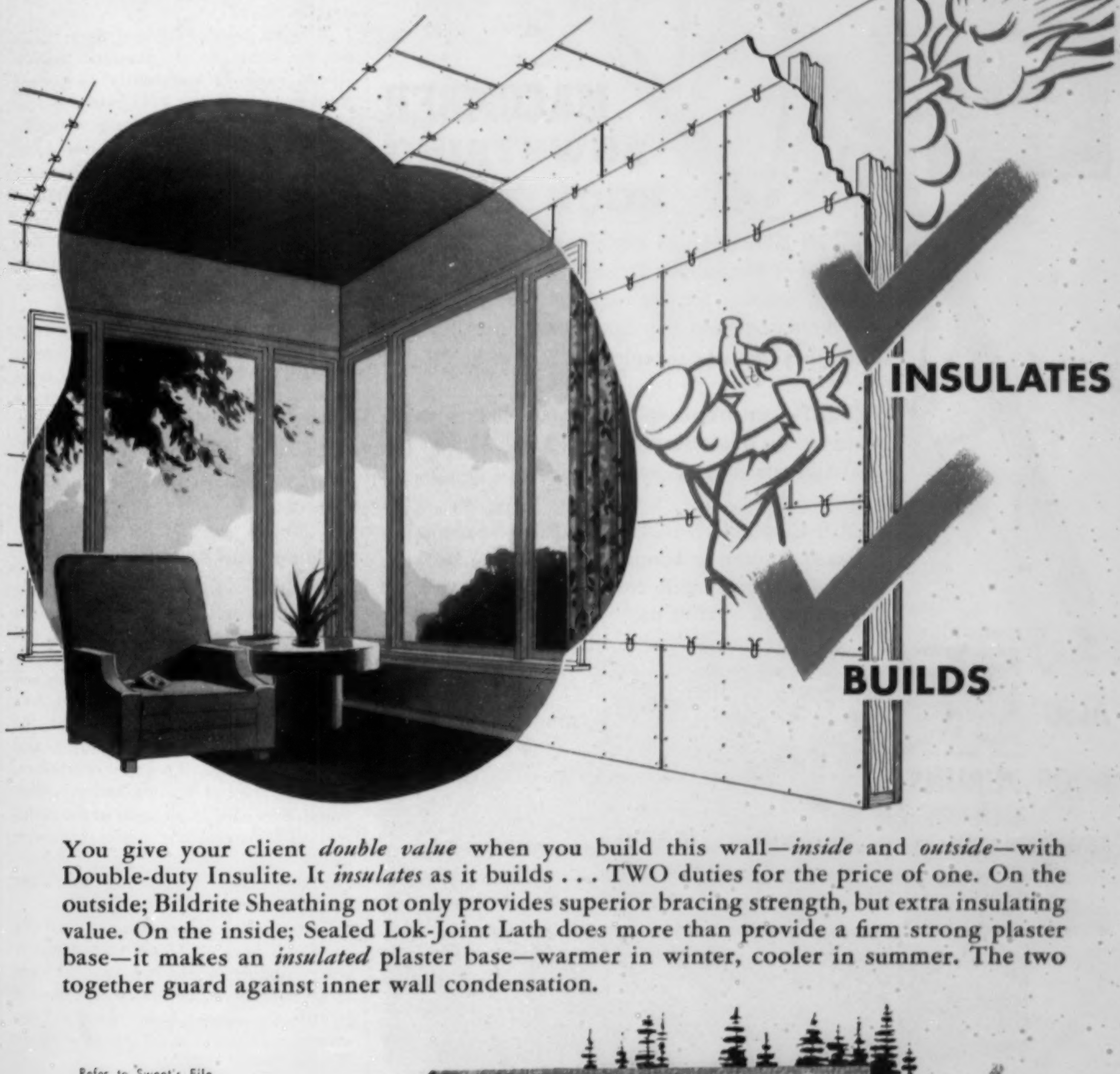
The first provision will benefit about 10,000 families by reducing their down payments an average of $1000 apiece. The second will stimulate interest in arresting and ultimately reducing building costs. The third will help clear slums and replace them with new rental housing. The fourth will ease the burden of municipalities which must provide serviced land for Dominion Government housing projects. It allows a contribution of $300 per site for a maximum of 10,000 dwelling units.

Ontario's legislation is somewhat more extensive than that passed by the

(*Continued on page 156*)

DOUBLE DUTY
INSULITE

SEALED LOK-JOINT LATH *(INSIDE)* . . . BILDRITE SHEATHING *(OUTSIDE)*



You give your client *double value* when you build this wall—*inside* and *outside*—with Double-duty Insulite. It *insulates* as it builds . . . TWO duties for the price of one. On the outside; Bildrite Sheathing not only provides superior bracing strength, but extra insulating value. On the inside; Sealed Lok-Joint Lath does more than provide a firm strong plaster base—it makes an *insulated* plaster base—warmer in winter, cooler in summer. The two together guard against inner wall condensation.

Refer to Sweet's File,
Architectural Section 10a/9

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FOR BETTER STRUCTURAL DESIGN
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FOR SPANS UP TO 180 FEET
A STANDARD CATALOGED
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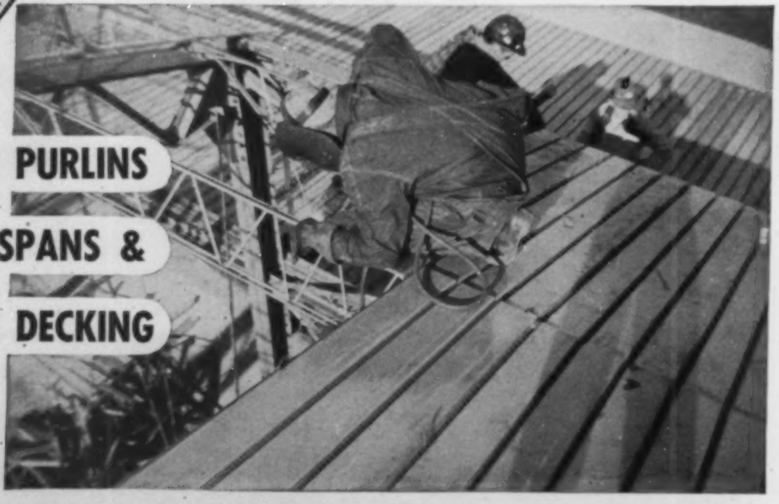
BOWSTRING
ROOF TRUSS

DESIGN STANDARDS have been established for all sizes of Macomber Trusses. You can order by catalog number for the required load and span. We have absorbed this colossal engineering task through years of concentration in this field.

RESULT — an accurately engineered, bow-string truss in the quantity you need, laid down at the building site at very nominal cost.

YOUR COMPLETE ROOF SYSTEM — Macomber Trusses, Purlins or Longspans and Steel Decking delivered on schedule from one source warrants investigation. Write us.



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STANDARDIZED STEEL BUILDING PRODUCTS

THE RECORD REPORTS

(*Continued from page 10*)

conclusions, among others:

"Steel as a whole is now in tight position domestically and (barring a sharp and protracted recession) will remain so during fiscal 1949 and fiscal 1950, even if exports are held to the annual rate prevailing in the first nine months of 1947.

"During fiscal 1951 and fiscal 1952, on the other hand, domestic supply should improve sufficiently to permit total exports at the 1947 rate and still enable our industry to serve virtually all home needs even if conditions of full employment obtain. Since the pressure for exports to extra-European markets are likely to slacken in three years, the United States ought easily to be able to meet higher-than-1947 demands from Europe should these materialize. . . .

"So far as can be seen at this writing, sheet steel will present serious problems in fiscal 1949 and the forepart of fiscal 1950. . . . Home supply promises to remain inadequate to meet domestic and extra-European export demands during this period even with additional continuous mill capacity in operation. . . ."

Building Spurt Resumes

As spring arrived, home building spurted. Federal statisticians noted the marked seasonal upswing, pointing out that housing starts in the first quarter surpassed the first three months last year by 16 per cent, despite the fact that builders in many areas of the country marked time in January and February because of weather conditions. The high level of housing activity, they found, prevailed in all areas of the country, with particularly noticeable gains in the Middle Atlantic States, the East North Central States and the East South Central States.

Construction expenditures generally in March were up 32 per cent over the corresponding month last year. Private residential construction was reported by the Commerce Department's Construction Division at 58 per cent above March, 1947.

The high production rate of building materials, which continued into the first part of 1948, later slumped somewhat. The inventory picture improved.

Non-farm mortgages were estimated by the Home Loan Bank Board at 7 per cent higher in February than the year before and a third above the aggregate for the same month in 1946. All classes of lenders, except commercial banks, extended their activity — insurance companies by 47 per cent.

(*Continued on page 14*)

CORKOUSTIC IS BACK

NOW ARMSTRONG'S CORKOUSTIC is available again. This versatile sound absorbing material is ready to help you specify proper sound control, even for areas where there is a serious moisture problem.

This tough, fissured acoustical tile is made entirely of cork particles. Since cork is naturally highly resistant to moisture, Corkoustic is ideal in natatoriums or other areas where humidity is high. Corkoustic is particularly efficient in quieting high pitched noise, absorbing 89% of the sound waves at 4096 cycles.

Each 12" square tile of Armstrong's Corkoustic weighs only 0.84 of a pound—yet it's a full 1½" thick. And a ceiling of Corkoustic has the extra advantage of eliminating condensation and minimizing heat loss.

Armstrong's Corkoustic comes with two coats of resin-emulsion white paint on face and bevels. The finish reflects a high percentage of the light that strikes it, and it is easy to clean and repaint without loss of acoustical efficiency. It is quickly cemented to any rigid, level ceiling. Flexible enough to fit moderately curved ceilings and arches, Armstrong's Corkoustic can help to solve many of your most difficult design problems.

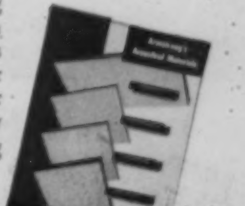
For help with any of your acoustical problems, call your nearest Armstrong office, or write direct to Armstrong Cork Company, 2406 Stevens Street, Lancaster, Pa.

CORKOUSTIC: **Sound Absorption Coefficients at Various Frequencies**

Thickness	Size	Coefficients at Cycles Tested						Noise Reduction Coefficient
		128	256	512	1024	2048	4096	
1½"	12"x12"	.06	.16	.73	.69	.56	.89	.55

FOR DETAILS

see the Armstrong pages in section 11-a of Sweet's Catalogue. Or write today for your special copy of the Armstrong insert.



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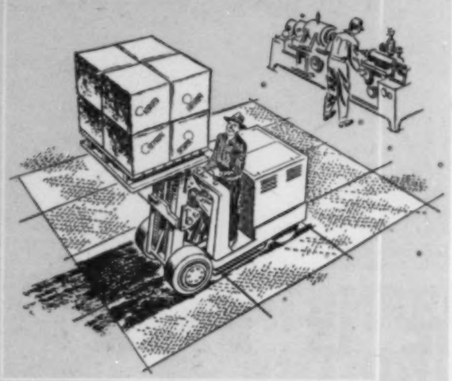
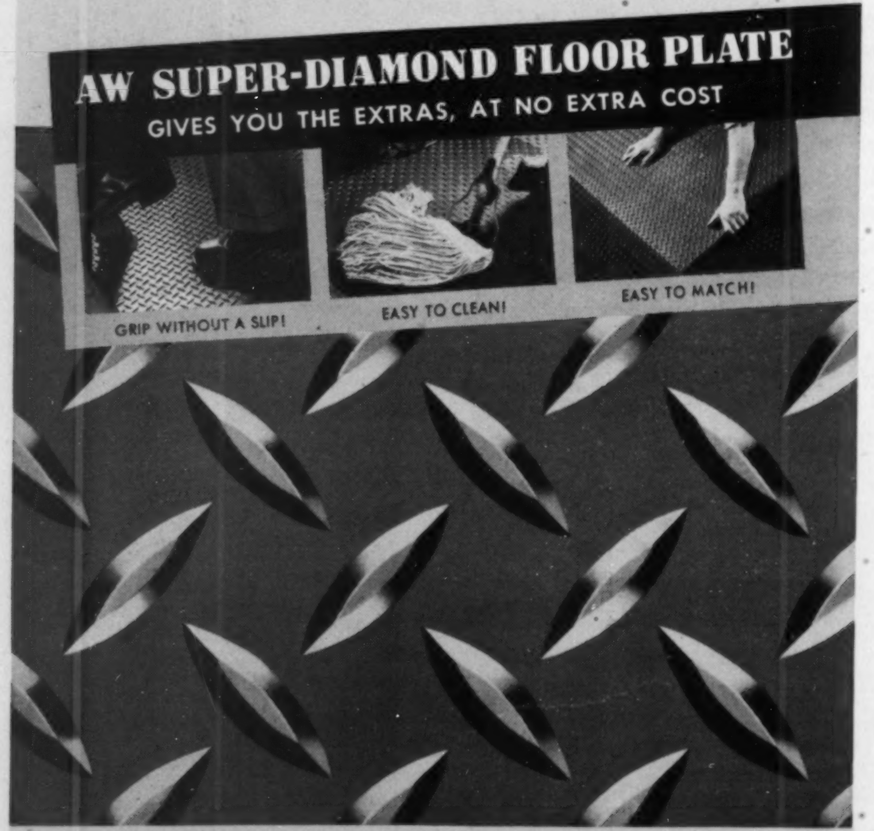
HOW TO – Eliminate Slipping Accidents
In YOUR Plant . . . On YOUR Products



Slipping accidents cost industry thousands of dollars and hundreds and hundreds of man-hours each year. Today it is important to reduce costs and to get maximum production. AW Super-Diamond Floor Plate helps you to do this in three ways: 1. It prevents men from slipping. Wet or dry it grips without a slip. 2. Heavy traffic, oil, heat and fire do not damage it. Therefore maintenance costs are eliminated completely. 3. It is easy to clean (water drains and dries quickly from the exclusive AW Super-Diamond Pattern), and it's easy to match. AW Super-Diamond Floor Plate has over 1001 uses in plants, and on products such as saddle tanks, lift-trucks, machine bases, etc. Do as leading Architects and Designers do and specify AW Super-Diamond Floor Plate . . . for your plant and products.

FREE—a 16-page catalog. Mail Coupon for your copy.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GIVES YOU THE EXTRAS, AT NO EXTRA COST
GRIP WITHOUT A SLIP!
EASY TO CLEAN!
EASY TO MATCH!

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Company
Address City State
A Product of ALAN WOOD STEEL COMPANY
Other Products: Billets • Plates • Sheets • Carbon & Alloy

THE RECORD REPORTS

(*Continued from page 12*)

Court Rules on Prices

Late in April the Supreme Court upheld a Federal Trade Commission order outlawing the concerted use of a multiple basing-point delivered-price system in the cement industry. It held that such a system is a collusive price-fixing device which violates both the Federal Trade Commission Act and the Clayton Anti-Trust Act.

In the words of the FTC, the decision "has a definite and substantial impact upon the status of similar systems of identical delivered prices used by a number of heavy goods industries. In the aggregate the commodities priced under such systems are important factors in the cost of housing and other construction and of semi-fabricated products used as raw materials in a host of other industries." Meanwhile, the Commission awaited decisions in three similar cases pending in the United States Circuit Courts of Appeals, two involving steel products and the third, book paper.

Odds and Ends

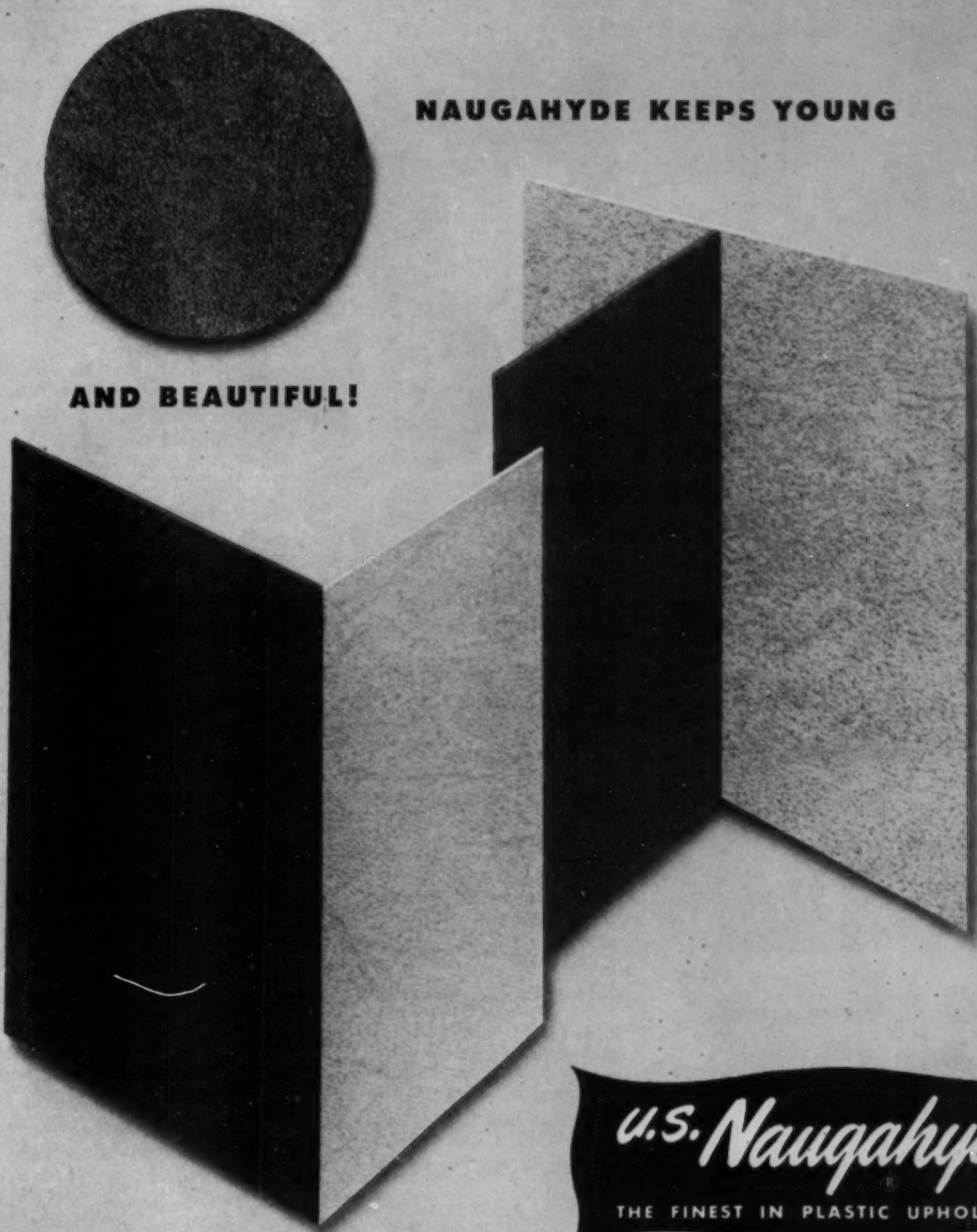
Other items of note among federal agencies:

1. HHFA has completed its top organization. Besides Raymond M. Foley as HHFA Administrator, other top officials include Franklin D. Richards as FHA Commissioner, John T. Egan as Public Housing Commissioner, and William K. Divers, Chairman, and J. Alston Adams and O. K. LaRoque members, of the Home Loan Bank Board. Tighe Woods is Housing Expediter.

2. A 330-page handbook, *Manual on Wood Construction for Prefabricated Houses*, has been published by HHFA, giving basic scientific and engineering information about wood and wood-base materials used in housing. It is believed to be the first complete technical treatise on efficient utilization of lumber, plywood, fiberboard, and related materials, and embodies results of more than 12 years of research in prefabricated house design and construction by the U. S. Forest Products Laboratory at Madison, Wisc. It is available from the Government Printing Office, Washington, D. C., at $1.50 a copy.

3. HHFA's Division of Law has prepared a 10-page chart, giving a comparative outline of the principal provisions of state statutes authorizing direct or equity investment in housing by various types of financial institutions.

(*Continued on page 16*)



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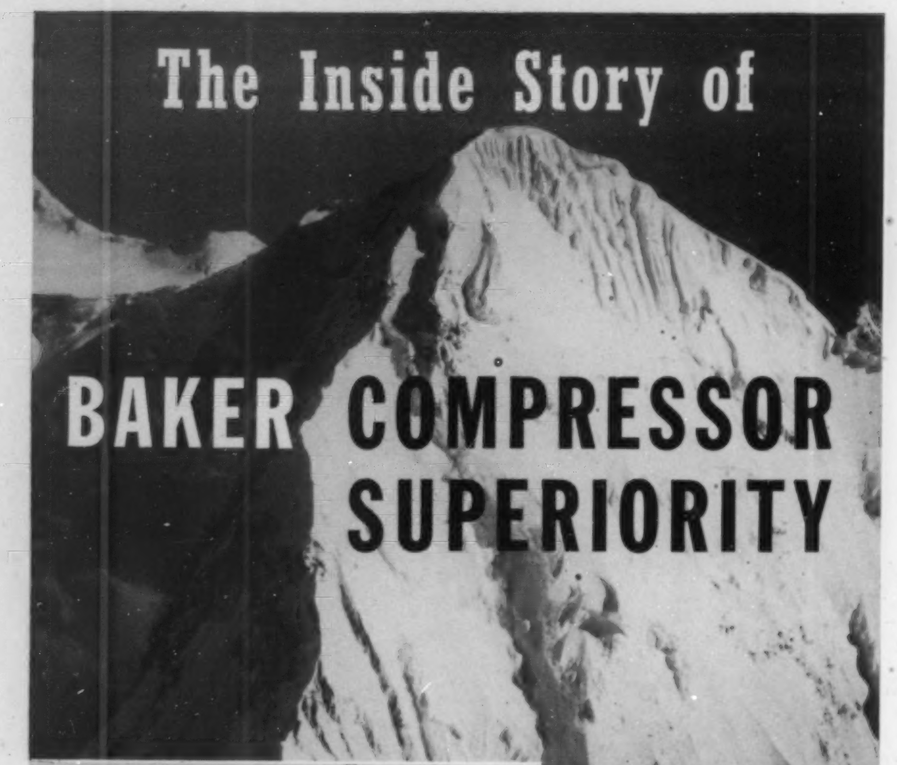
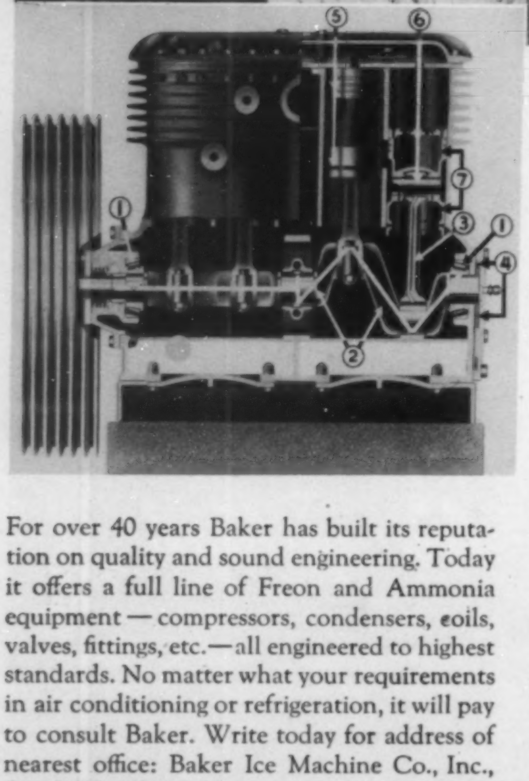


Photograph by Bradford Washburn



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7 **DOUBLE TRUNK PISTONS** — Precision ground and with piston pins centrally located to distribute side thrust evenly.

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THE RECORD REPORTS

(*Continued from page 14*)

Underground War Plants?

Army engineers say they have not abandoned totally their plans for underground installation of war plants. In fact, investigations are going forward now on two fronts: (1) underground explosion tests are being started in central Utah and western Colorado; and (2) the Guy B. Panero engineering firm of New York City is continuing to investigate the feasibility, the cost of construction and operation of underground plants and storage sites.

By no means have all types of underground facilities been ruled out by the Army.

A recent report did state that the idea of placing huge steel mills, aircraft plants and heavy manufacturing industries beneath the earth's surface is considered a stupid one. The report cited a danger to worker morale and the ease with which poison and radioactive gases could be carried through the large ventilating systems which would be required to serve installations of this kind.

Army technicians point out, however, that studies for underground or "protective" construction are continuing.

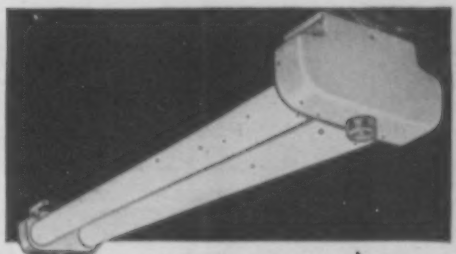
The explosive tests now beginning will take at least five months to complete. T.N.T. charges up to 32,000 pounds will be used to demonstrate to engineers the effects on underground structures.

Quite frankly, the Army says results will establish design criteria for future subterranean structures and tunnels able to resist enemy bombings. The tests will be made in four types of soil — dry sand, wet sand, dry clay and wet clay; and in four kinds of rock — granite, sandstone, limestone and shale. The explosions will provide the Army engineers with basic data on tunnel depth and underground structure design, not only for their own strategic purposes but for industrial plant location as well.

The Panero firm surveys are being pushed to provide information for potential protection of war plants. "The overall program," said the War Department, "entails investigations in this country and in Europe. It includes cost and technical data on existing foreign underground installations, insofar as is practicable." Involved also are aboveground and underground comparisons of cost, construction and operation.

In making his findings, Panero and his staff of engineers have access to design, construction costs and operat-

(*Continued on page 18*)



To specify **FULL VALUE** in fixtures

CHECK 'EM FOR GE TURRET* LAMPHOLDERS

660W. 600V.
G. E. CO.
MADE IN U.S.A.

When you specify fixtures for fluorescent lighting in industrial and commercial buildings, look into the "user advantages" first. Check the four big features that make General Electric Turret lampholders appeal to your clients. It's an "inside story" of top-notch fixture performance.

Remember, only General Electric makes Turret lampholders. Many fixture manufacturers use them, but the best way to be sure that they are in the lighting fixtures you call for is to specify *General Electric Turret lampholders* every time.

A new General Electric Turret lampholder will accommodate three lamps. Two-lamp lampholders are also available, with receptacles spaced on 3½-inch or 5-inch centers. For additional installation and design data, write to Section Q12-65, General Electric Company, Bridgeport 2, Connecticut.

*Trade-mark Reg. U. S. Pat. Office.

GENERAL ELECTRIC

SAFETY FEATURE—The hazard of falling lamps is virtually eliminated when fixtures are equipped with General Electric Turret lampholders. Each spring-backed plate contains two holes into which the fluorescent lamp pins are inserted. Snug fit and uniform spring tension hold the lamps in place.

CONVENIENCE—Lamps can be installed from either end of the Turret lampholder. Either face of the lampholder is depressed by one end of the lamp, and the other end is then slipped into place. The lamps are automatically held in firm contact. Removal of dead lamps is equally easy. The starter socket is built-in, and is readily accessible.

ECONOMY—Turret lampholders have the ability to withstand rough handling without being damaged, which means that there is no costly replacement problem. Elimination of safety gadgets means another saving. In addition, the availability of three sizes of Turrets simplifies fixture design, and permits a wide selection of lamp arrangements.

SERVICE—The sturdy metal construction of General Electric Turret lampholders is designed to stand hard usage. All working parts are made to give long service—as long as the fixture itself lasts. This durability helps to provide top-notch fixture performance . . . maximum lighting efficiency.

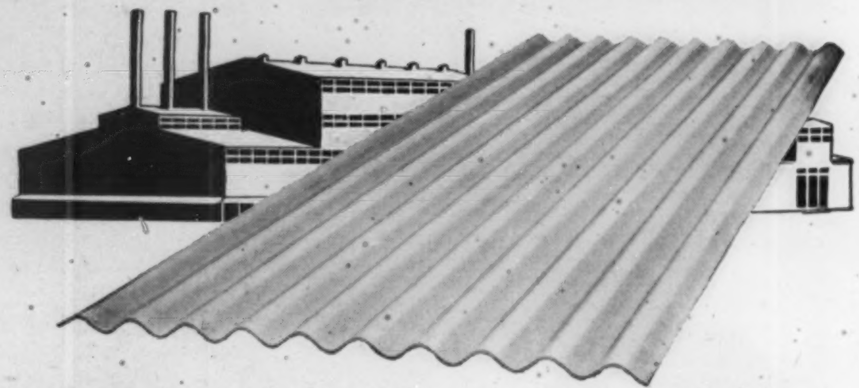
Planning a

Chemical Plant

Oil Refinery

Paper Mill?

. . . or an addition



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Asbestos-Cement Corrugated Roofing & Siding

—the lifetime roofing and siding that's fireproof and corrosion-proof. Asbestone can't be damaged by weather, rats, or termites. No painting. No upkeep.

Here are a few of the many prominent users:

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Why we can assure you early delivery

We are concentrating on production of this single industrial product. Stocks are now ample to make some immediate shipments. Free Engineering Service, available on request, shows how Asbestone can be adapted to your needs.

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Specialists in Asbestos-Cement Building Products for over 25 Years

THE RECORD REPORTS

(*Continued from page 16*)

ing experience records of several major firms engaged in plant design, construction and operation during World War II. This part of the investigations is under the policy direction of the Army and Navy Munitions Board.

The entire subject was pointed up recently in a statement by Lt. Gen. R. A. Wheeler, Chief of Engineers: "There are problems, however, in planning for future construction requirements which I think you will find interesting. Underground construction is one field. The results of the bombing in the last war, the advent of the atom bomb, and the realization that ocean barriers are no longer adequate to prevent bombing of this country, have intensified interest in protective construction. Particularly underground protection.

"Because it is obviously impracticable to provide protection by aboveground construction, a thorough survey of the country's mines and caves is now under way. Moreover, a few pilot models of underground industrial activities are being installed to obtain further information. It is agreed that dispersion is the more practical means of securing protection; our studies, however, will give us valuable data on the few critical activities that will require special protection."

It is expected that chemical and ordnance plants will be given first consideration as being in the "critical activities" class as this program develops.

Management-Labor Agreement

It is going to be easier, from now on, for the construction industry to handle its own jurisdictional disputes.

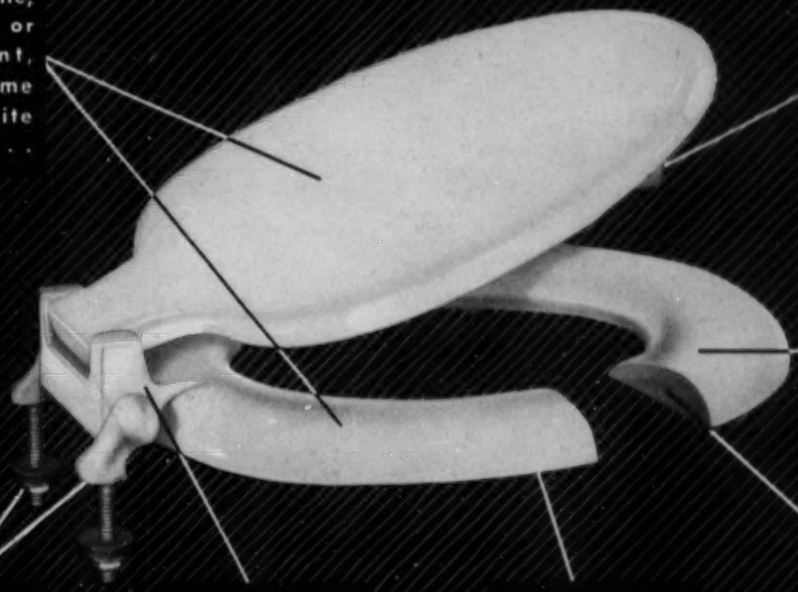
Since May 1, building labor has been under a new management-labor agreement with work stoppages ruled out pending issuance of binding decisions. It may not be an overall panacea for labor ills in the construction trades, but it is a major step toward harmony and has drawn the plaudits of government.

The National Labor Relations Board welcomes the new plan as an influence to lower its case load. The Department of Labor observed: "Costly and time-consuming jurisdictional strikes in the building and construction industry appear to be coming to an end."

The agreement placed in effect May 1 provides that pending a decision by the joint board formed specifically to review jurisdictional disputes, or arrangements within the A.F. of L., there can be no work stoppages arising from this cause.

(*News continued on page 20*)

ONLY Olsonite SEATS
Have All These Selling Features!



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Complete line of Models and Colors

Long Life, Stainproof Bumpers Used On All Olsonite Seats . . .

Scientifically Designed In Both Proportion and Contour with Smooth Curves and Edges . .

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Exclusive New, Patented Olsonite Hinge Design.

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BUT LUSTROUS OLSONITE
ALL THE WAY
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Lowest-Priced Seat of This Quality on the Market — and Guaranteed a Lifetime!

Olsonite Seats are far superior to ordinary wood, rubber, sheet-covered, or plastic-coated seats . . . and are far greater values! They won't crack, chip, peel, stain, or lose luster! Non-inflammable! No exposed metal. (Sold only through authorized plumbing and heating jobbers to Master Plumbers.) Contact your local jobber today. For full information write Olsonite Plastics Division.

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Summer
Winter

STYLING CAN CHANGE WITH THE SEASONS WHEN BASED ON *Oak Floors*

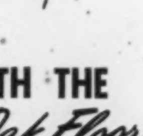
In your houses, owners can change from winter to summer furnishings and still have harmonious rooms—provided the flooring is oak.

The mellow luster of this rich wood blends subtly with the soft, cool pastels of summer, and glows warmly amid the bolder tones of winter decor. Seasonal styling becomes far more flexible and economical when such an adaptable flooring is used.

The same adaptability to new ideas and styles lasts for the life of the home. New wallpaper or paints meet no discords from beautiful oak. The natural grain and texture form a harmonious base for whatever colors and styling may be chosen in replacing the original decor.

The most versatile floors you can suggest—and at the same time, those with the most enduring beauty—are oak.

ASK FOR ARCHITECTS' DATA BOOK—*which gives quick and usable information for specifying, laying, finishing and maintaining oak floors. Available from your local oak flooring dealers or from the National Oak Flooring Manufacturers' Association, 814 Sterick Building, Memphis, Tenn.*



OAK FLOORS
BEAUTY · DURABILITY
ADAPTABILITY · ECONOMY

THE RECORD REPORTS

(*Continued from page 18*)

ON THE CALENDAR

June 11: 25th Annual Golf Tournament for Architects in the Southeast, East Lake Country Club, Atlanta, Ga.

Through June 12: Exhibition of about 80 original drawings and renderings and several models of prize-winning and other designs entered in the Jefferson National Expansion Memorial Competition for a waterfront memorial at St. Louis, Architectural League of New York, 115 E. 40th St., New York City.

June 12–22: Construction Industries Home and Building Exposition of Southern California, Pan-Pacific Auditorium, Los Angeles, Calif.

June 15–17: 2nd Short Course in Hot Water and Steam Heating, sponsored jointly by The Institute of Boiler and Radiator Manufacturers and the University of Illinois, University of Illinois, Champaign-Urbana, Ill.

June 21–25: 51st Annual Meeting, American Society for Testing Materials, Detroit, Mich.

June 22–25: Annual Convention, American Institute of Architects, Hotel Utah, Salt Lake City, Utah.

June 28–July 1: First Congress of the International Union of Architects, Lausanne, Switzerland.

June 30–July 3: National Catholic Building Convention and Exposition, Stevens Hotel, Chicago, Ill.

July 6–10: 2nd International Store Modernization Show, Grand Central Palace, New York City.

July 21–23: Summer Convention, American Society of Civil Engineers, Olympic Hotel, Seattle, Wash.

Aug. 2–27: 2nd Annual Silversmithing Workshop Conference for teachers, Rhode Island School of Design, Providence, R. I.

Aug. 4–8: 2nd Annual Pacific Northwest Arts and Crafts Fair, Bellevue, Wash.

CONSTRUCTION REPORTS

New High Mark Set

A new first-quarter high mark in dollar volume of construction contracts has been set in the 37 states east of the Rocky Mountains with a total of $1,986,936,000, F. W. Dodge Corp. statistics show. This volume surpasses by 23 per cent the previous first-quarter record established last year.

While the dollar volume of residential contracts was maintained at a level equal to the first quarter of last year, non-residential contracts were up 42

(*Continued on page 22*)

When your plans include an

ORGAN INSTALLATION...

See our CATALOG in SWEET'S FILE ARCHITECTURAL

You'll find this Reference Manual most helpful and informative. A copy is yours for the asking!

A 16-page brochure covering features you must look for in any organ you specify: organ nomenclature; American Guild of Organists' playing specifications; relationship of tone, space and cost, acoustics, pipe organ vs. electronic organ; essential and auxiliary equipment; installation requirements and techniques.

IMPORTANT FACTS ON Organs AND THEIR INSTALLATION
THE WURLITZER ORGAN SERIES 20A TWO MA

SPACE SAVED
by the
WURLITZER ORGAN

Series 20 Two-Manual

can be used for a larger, better equipped church

- If you compare the 600 to 11,500 cubic feet that are generally necessary to house a large organ, to the 98 cubic feet required for a Wurlitzer Electronic Organ, it immediately becomes apparent that here is a saving of space that can be utilized for many additional facilities. In churches, for instance, this space-saving factor can be interpreted in terms of increased seating capacity, a Pastor's study, a Sunday school room, recreation center or kitchen . . . all desirable features . . . made possible through the space and money saved by a Wurlitzer Organ installation.

When you specify a compact Wurlitzer Organ you eliminate space-consuming blowers, organ chambers, huge pipes and relay rooms without sacrificing traditional organ music.

To achieve this valuable saving of space, the classically beautiful Wurlitzer Organ has added electronic selection, modification and amplification of tone to principles that have always governed fine *organ tone production*.

Architects, everywhere, are finding that by recommending a Wurlitzer Organ, they can include many extra facilities at little or no increase in the original building cost and, hence, get faster acceptance of their plans.

consider these Extra Facilities then specify with confidence the Wurlitzer Organ

additional pews **pastors study**

kitchen **nursery**

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Company..............................
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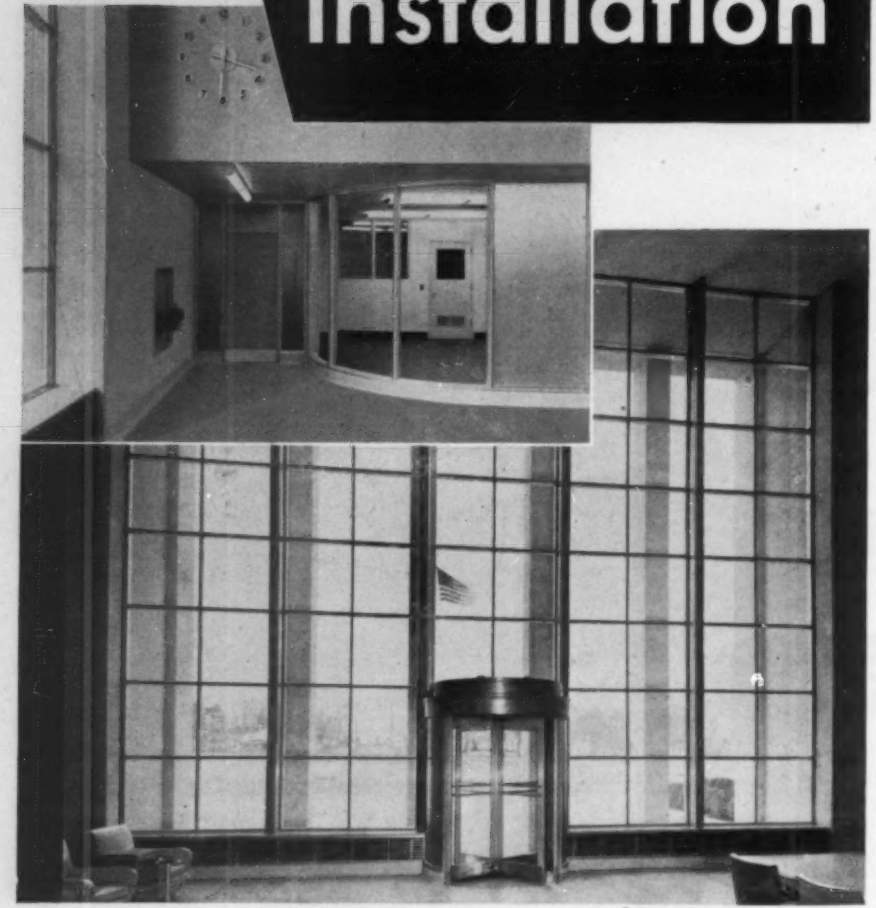
Another ★ michaels installation



Ford Motor Company, Hapeville, Ga. Albert Kahn, *Architect*

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Welded Bronze Doors
Elevator Doors
Store Fronts
Lettering
Check Desks (standing and wall)
Lamp Standards
Marquises
Tablets and Signs
Name Plates
Astragals (adjustable)
Stair Railings (cast and wrought)
Wrought and Cast Radiator Grilles
Grilles and Wickets
Kick and Push Plates
Push Bars
Cast Thresholds
Extruded Thresholds
MI-CO Parking Meters
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THE RECORD REPORTS

(*Continued from page 20*)

per cent and heavy engineering awards increased 46 per cent over the comparable period of 1947.

Gains in dollar volume of construction contracts were shown for 11 of the Corporation's 15 reporting regions. Those areas whose gains were equal to or greater than the average for the 37 states are: upstate New York; the Middle Atlantic states; the Southeastern states; southern Michigan; northern Illinois, Indiana, Iowa and Wisconsin; eastern Missouri, southern Illinois, western Tennessee and Arkansas; Louisiana and Mississippi; Minnesota, North Dakota, South Dakota; western Missouri, Kansas, Nebraska and Oklahoma. Other regions showed a gain over the first quarter of last year except New England, down 7 per cent; metropolitan New York and northern New Jersey, off 2 per cent; southwestern Ohio and Kentucky, down 19 per cent; and Texas, off 4 per cent.

Industrial Capacity Expanded

American industry has invested approximately $3 billion in manufacturing plant expansion and new industrial buildings in the 37 states east of the Rocky Mountains since the close of World War II, an analysis made by F. W. Dodge Corp. shows.

The actual dollar volume of contracts awarded for manufacturing building for the two and a half years covering the last quarter of 1945, the full calendar years 1946 and 1947, and the first quarter of 1948 was $2,725,856,000. The figures are for structures only and exclude processing machinery and equipment contained in buildings.

Processing industries, such as chemicals, rubber and textiles, accounted for $1,595,363,000 in building contract awards during the 30-month period, while the manufacturing industries, such as automobile and machinery manufacturing, accounted for the remainder.

The largest volume was for buildings to be used in food processing, with a total of $412,284,000, followed by: chemicals with a total of $299,080,000; refineries, $193,345,000; textiles, $151,066,000; and paper and pulp processing, $131,778,000.

Among the mechanical group, iron and steel manufacturing led with a total in building contracts of $212,074,000, followed by automobile and aircraft manufacturing buildings valued at $107,989,000.

The volume of manufacturing building contracts declined in 1947 to $941,427,000 from the exceptionally high total

(*Continued on page 160*)

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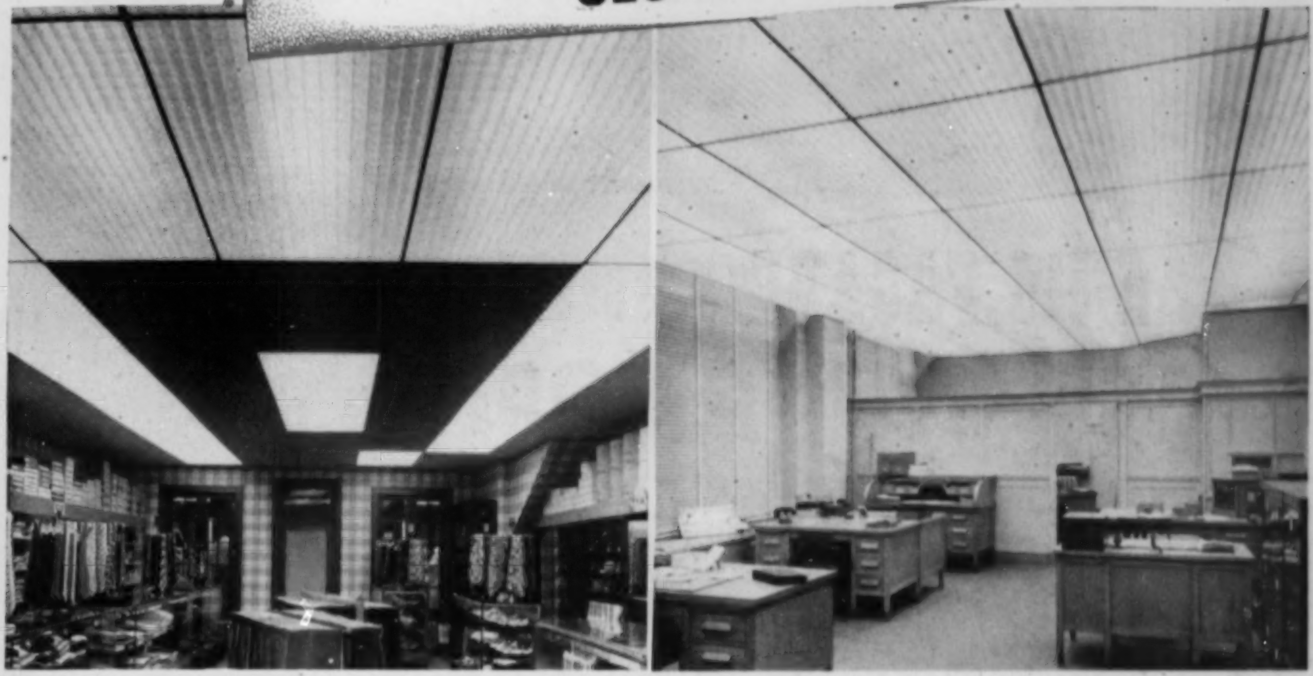

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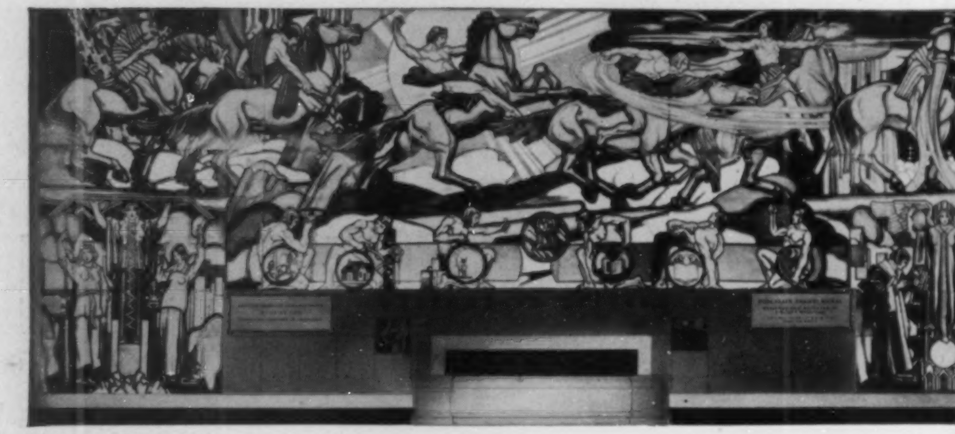

Multi-colored porcelain enamel mural, size 72 feet by 28 feet, given to the Union Terminal, Cleveland, Ohio, by the Ferro Enamel Corp., Cleveland. Designed and executed by J. Scott Williams in Seaporcel's plant.

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Buffalo, N. Y.

Sign by FLEXLUME SIGN CO.
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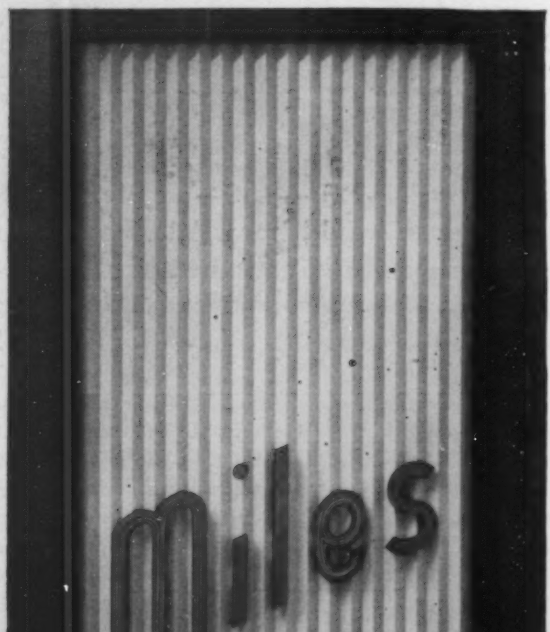
An old FACADE gets a FACE LIFTING JOB

[A New Store Gets an Eye-catching Sign]



MILES SHOE STORE—34th Street, New York City
Michael Polom, N. Y., Designer

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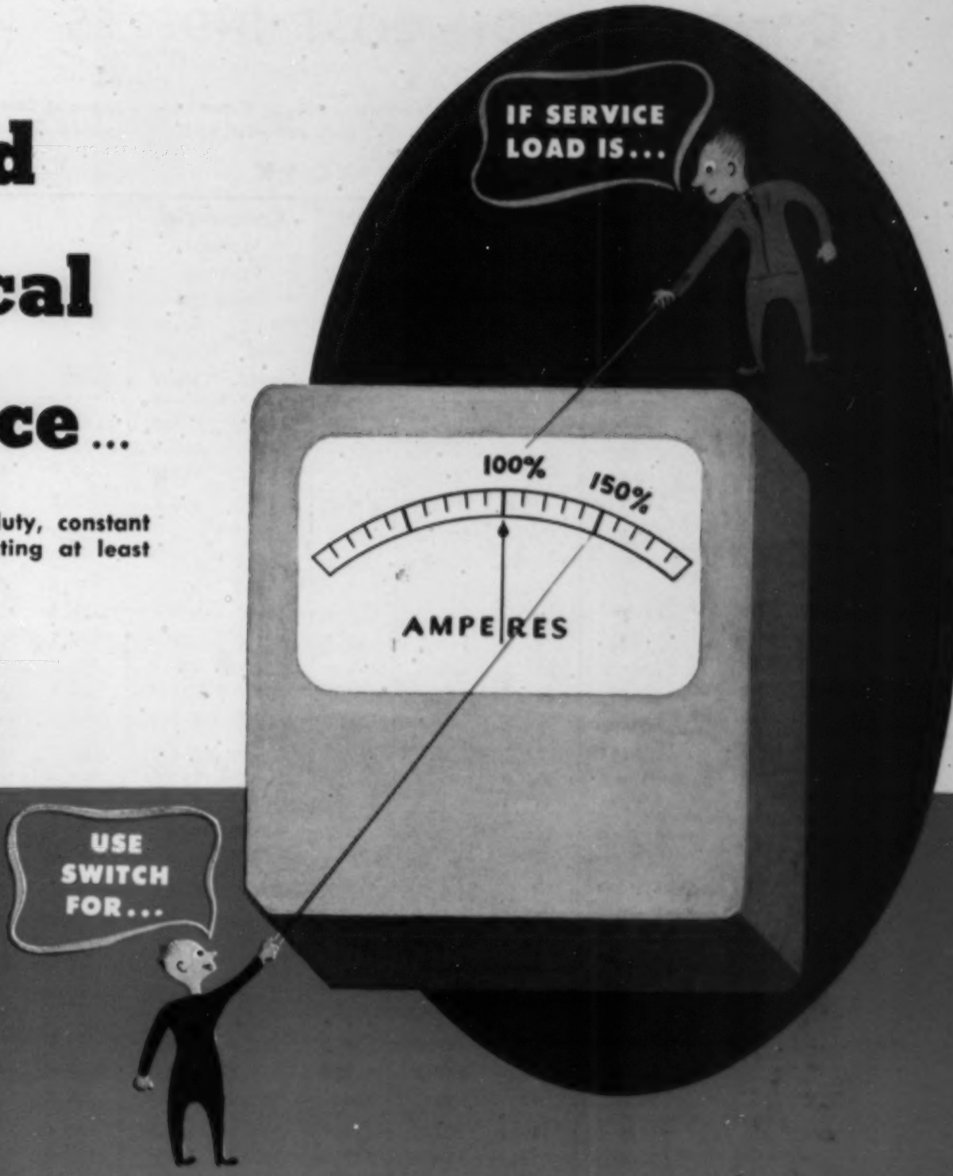

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CONSTRUCTION COST INDEXES — Labor and Materials

United States average 1926—1929 = 100

Presented by Clyde Shute, manager, Statistical and Research Division, F. W. Dodge Corporation, from data compiled by E. H. Boeckh & Associates, Inc.

Period	NEW YORK					ATLANTA				
	Residential		*Apts., Hotels, Office Bldgs.*	*Commercial and Factory Buildings*		*Residential*		*Apts., Hotels, Office Bldgs.*	*Commercial and Factory Buildings*	
Period	*Brick*	*Frame*	*Brick and Concr.*	*Brick and Concr.*	*Brick and Steel*	*Brick*	*Frame*	*Brick and Concr.*	*Brick and Concr.*	*Brick and Steel*
1920	136.1	136.9	123.3	123.6	122.6	122.8	122.9	108.6	109.8	105.7
1925	121.5	122.8	111.4	113.3	110.3	86.4	85.0	88.6	92.5	83.4
1930	127.0	126.7	124.1	128.0	123.6	82.1	80.9	84.5	86.1	83.6
1935	93.8	91.3	104.7	108.5	105.5	72.3	67.9	84.0	87.1	85.1
1939	123.5	122.4	130.7	133.4	130.1	86.3	83.1	95.1	97.4	94.7
1940	126.3	125.1	132.2	135.1	131.4	91.0	89.0	96.9	98.5	97.5
1941	134.5	135.1	135.1	137.2	134.5	97.5	96.1	99.9	101.4	100.8
1942	139.1	140.7	137.9	139.3	137.1	102.8	102.5	104.4	104.9	105.1
1943	142.5	144.5	140.2	141.7	139.0	109.2	109.8	108.5	108.1	108.7
1944	153.1	154.3	149.6	152.6	149.6	123.2	124.5	117.3	117.2	118.2
1945	160.5	161.7	156.3	158.0	155.4	132.1	133.9	123.2	122.8	123.3
1946	181.8	182.4	177.2	179.0	174.8	148.1	149.2	136.8	136.4	135.1
Dec. 1947	231.3	234.1	219.8	218.4	215.1	189.3	194.0	166.7	164.5	169.4
Jan. 1948	238.8	242.7	225.1	224.6	220.0	191.9	196.7	168.6	166.7	171.4
Feb. 1948	239.2	243.2	225.2	224.8	220.1	194.4	198.5	172.1	172.7	173.8
Mar. 1948	244.8	246.4	233.9	237.0	229.9	194.6	198.7	172.4	172.9	174.0
	% increase over 1939					*% increase over 1939*				
Mar. 1948	**98.3**	**101.2**	**79.1**	**77.6**	**76.6**	**125.6**	**139.1**	**81.2**	**77.5**	**83.7**

	ST. LOUIS					SAN FRANCISCO				
1920	118.1	121.1	112.1	110.7	113.1	108.8	107.5	115.2	115.1	122.1
1925	118.6	118.4	116.3	118.1	114.4	91.0	86.5	99.5	102.1	98.0
1930	108.9	108.3	112.4	115.3	111.3	90.8	86.8	100.4	104.9	100.4
1935	95.1	90.1	104.1	108.3	105.4	89.5	84.5	96.4	103.7	99.7
1939	110.2	107.0	118.7	119.8	119.0	105.6	99.3	117.4	121.9	116.5
1940	112.6	110.1	119.3	120.3	119.4	106.4	101.2	116.3	120.1	115.5
1941	118.8	118.0	121.2	121.7	122.2	116.3	112.9	120.5	123.4	124.3
1942	124.5	123.3	126.9	128.6	126.9	123.6	120.1	127.5	129.3	130.8
1943	128.2	126.4	131.2	133.3	130.3	131.3	127.7	133.2	136.6	136.3
1944	138.4	138.4	135.7	136.7	136.6	139.4	137.1	139.4	142.0	142.4
1945	152.8	152.3	146.2	148.5	145.6	146.2	144.3	144.5	146.8	147.9
1946	167.1	167.4	159.1	161.1	158.1	159.7	157.5	157.9	159.3	160.0
Dec. 1947	217.5	220.9	194.9	193.4	196.3	209.7	209.3	196.8	200.6	200.2
Jan. 1948	220.6	224.0	198.1	200.9	199.6	212.7	210.5	199.8	206.8	202.9
Feb. 1948	221.4	224.8	199.4	202.3	200.4	213.8	211.5	201.6	208.9	203.9
Mar. 1948	223.6	227.5	200.2	202.9	201.3	214.0	211.7	201.9	209.1	204.1
	% increase over 1939					*% increase over 1939*				
Mar. 1948	**102.9**	**112.6**	**68.6**	**69.4**	**69.1**	**102.7**	**113.2**	**71.9**	**71.6**	**75.2**

The index numbers shown are for combined material and labor costs. The indexes for each separate type of construction relate to the United States average for 1926–29 for that particular type — considered 100.

Cost comparisons, as percentage differences for any particular type of construction, are possible between localities, or periods of time within the same city, by dividing the difference between the two index numbers by one of them; i.e.:

index for city A = 110
index for city B = 95

(both indexes must be for the same type of construction).

Then: costs in A are approximately 16 per cent higher than in B.

$$\frac{110-95}{95} = 0.158$$

Conversely: costs in B are approximately 14 per cent lower than in A.

$$\frac{110-95}{110} = 0.136$$

Cost comparisons cannot be made between different types of construction because the index numbers for each type relate to a different U. S. average for 1926–29.

Material prices and wage rates used in the current indexes make no allowance for payments in excess of published list prices, thus indexes reflect minimum costs and not necessarily actual costs.

These index numbers will appear whenever changes are significant.

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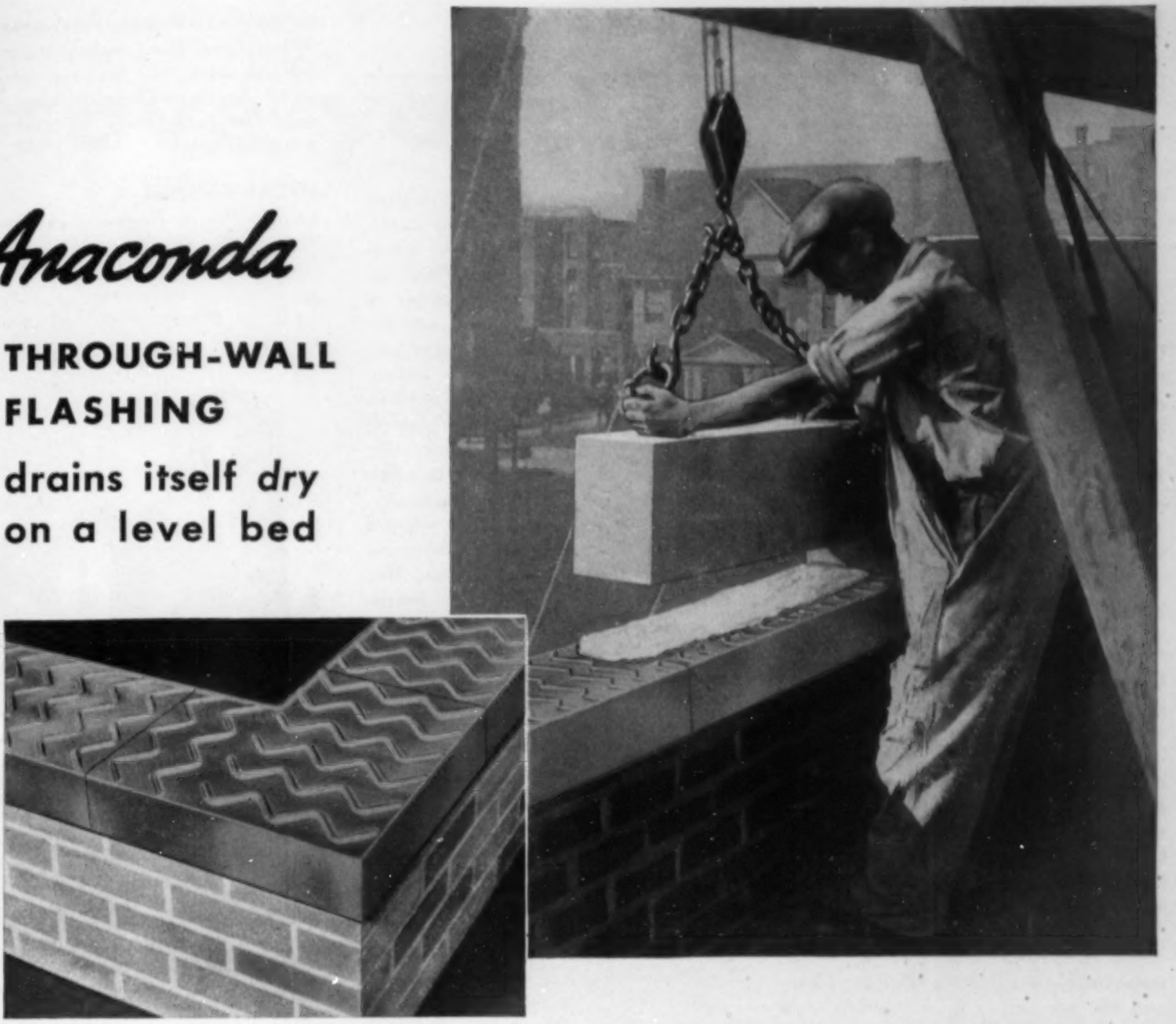
THROUGH-WALL FLASHING

drains itself *dry* on a level bed



Wherever through-wall flashing is specified, as at parapets and in masonry walls, this patented Anaconda flashing offers both efficiency and durability. The design of Anaconda Through-Wall Flashing provides a complete mortar bond and prevents lateral movement in *any* direction.

Sheet metal men like the die-stamped dam and corrugations that make this flashing easier and faster to lay. End joints are made simply by overlapping and nesting one corrugation. The flat selvage permits neat, sharp bends for counter flashing, without danger of distortion that might inhibit drainage. Die-stamped corner pieces (for both inside and outside corners) are nested in place as easily as the straight lengths.

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REQUIRED READING

AMERICA'S DESIGN HERITAGE

American Interior Design. The tradition and development of domestic design from Colonial times to the present. By Meyric R. Rogers, Curator, Decorative Arts and Industrial Arts, the Art Institute of Chicago. W. W. Norton & Co., Inc., New York. 8½ by 11 in. 309 pp. illus. $20.00.

Probably the highest praise that can be bestowed on any author is the statement that he successfully accomplished what he set out to do and that his purposes were worthy. A casual perusal of Meyric Rogers' book will show the reader the embracive scope of his treatment of our American domestic design heritage. Careful reading will prove his successful completion of this self-appointed task of providing in one volume not only the *what* and *when* of our domestic design development, but the *how* and *why*. In this he has provided a lucid, much-needed and sure-to-be-appreciated guide to the understanding and appreciation of American interior design. In one readable and beautifully illustrated volume he has accomplished what he set out to do, which, in brief, and in excerpts from his own words, was: "This book is intended to survey the field of our artistic expression which is concerned directly with our homes. These settings which we have created or adapted to our more immediate daily needs have been, and are, not only a more or less involuntary expression of our ideals, but are a constant if silent force in the formation of our esthetic standards. . . . This story of our design for living cannot, however, be satisfactorily told in its major implications without also considering first the main outline of the historical complex of which it is both an active part and a symbol. . . . An effort has been made to characterize the historical and social background . . . and to sketch briefly the architectural developments which accompanied it. . . . Though four out of its five sections are concerned with the past, the book has been considered very largely as providing a background against which the present will appear more intelligible. . . . It is hoped that as a whole this book will emphasize the continuity of our cultural development."

His subject matter is arranged historically in five chapters: "The Age of Settlement, 1630-1730; The Age of Colonial Achievement, 1730-1790; The Age of Federal Adolescence, 1790-1850; The Age of Continental Expansion and Industrial Empire, 1850-1920; The Age of Social Readjustment, 1920-Present." Following this is a section of some 80 pages devoted to the history of American interiors as presented in those remarkable American rooms in miniature created by Mrs. Thorne, whose models are now the property of the Art Institute of Chicago. This series of "plates" is most attractively and intelligently presented, for the most part by reproduction in full color accompanied by a similar photograph in black and white, and opposite each plate is explanatory text and a small illustration of the house, or type of house, in which the interior might be found originally. In addition, a clear and carefully selected glossary explains technical terms necessarily used throughout the book. Biographical notes concerning the designers, craftsmen, and architects mentioned are a most helpful addition, and a selected bibliography points the way to additional reading for those who would care to go further into particular aspects of the general subject. A comprehensive index completes the work.

While handsome and readable in its typography, and splendid in clarity of printing as well as in the selection of illustrations, the text is too frequently interrupted by an interposed two or three pages of solid illustrations and caption. In giving credit where credit is due, Morris Sanders might have been listed as the designer of the modular furniture shown on page 192. But such criticism may be carping rather than constructive.

To anyone, including architects, desiring to understand as well as to review the American design heritage, this one book comes nearest to being the *sine qua non*. Mr. Rogers has accomplished his purpose.

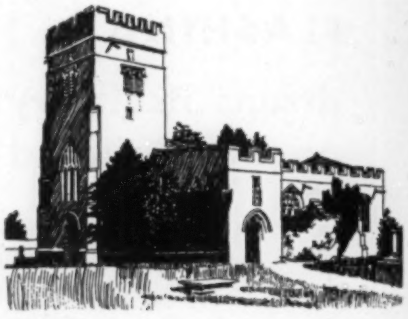
SWISS WOODEN HOUSES

Schweizer Holzhäuser. By Paul Artaria. Wepf & Co. Verlag Basel. 6¼ by 9 in. 127 pp. illus. Fr. 10. — Suisse

The Swiss have always been adept in the use of wood, using it both logically and imaginatively. After a brief historical introduction, well illustrated with photographs beginning with hewn-log houses with their low pitched roofs and their broad, spreading eaves. It includes discussion of characteristics of houses from other lands including a seventeenth century American farmhouse (called a "blockhaus"). The rest of the book is devoted to interesting photographs, plans, sketches, and details showing a wide variation of Swiss houses from the typical chalet to contemporary houses that might well find their counterpart in the American scene. There is inspiration for American architects throughout this little volume. Roof treatments, interesting balconies, wall textures, simple interior details, are sure to have suggestions for adaptation to the smaller American house.

LOCAL ORIGINS

Local Styles in English Architecture. An Inquiry Into Its Origin and Development. By Thomas Dinham Atkinson, F.R.I.B.A. London, W. 1 (15 N. Audley St.), B. T. Batsford, Ltd. Winter 1947. 5½ by 8½ in. VIII + 183 pp. Drawings, prints and photographs.



Having established in a previous work, "English Architecture" (now in its 12th edition), the distinctly national character of British building in overall comparison with types and styles elsewhere in Europe, the author in this volume turns his discernment to variations *within* the Island, analyzing local differences, refinements, and the reasons therefor down to shire and even borough influences. Churches predominate as subject and illustration, principally because of most abundant survival from early times, though secular buildings are treated to the extent that they exist and exemplify regional varieties and causations.

The author demonstrates that the great periods of local style were the fourteenth and fifteenth centuries for church architecture and the sixteenth and first half of the seventeenth for domestic, due to the acceleration of culture and activity of mind concurrent with these times, and the consequent elaboration in architectural forms and materials which made variety possible. Economic and social changes, the relative cessation of religious building, and the introduction of classic forms brought with them the practical disappearance of distinctly local architecture in the early 1700's.

Mr. Atkinson develops the primary sources of regional variation as seven — *Geology and Geography, Race, Religion, Foreign Influence, Wealth, Transport* and *Fashion* — in accounting for such uniquities as the pinnacles and parapets of church towers in Somerset, the plain mass and substance of the northern types (see cut), decorative half-timber-

(*Continued on page 30*)

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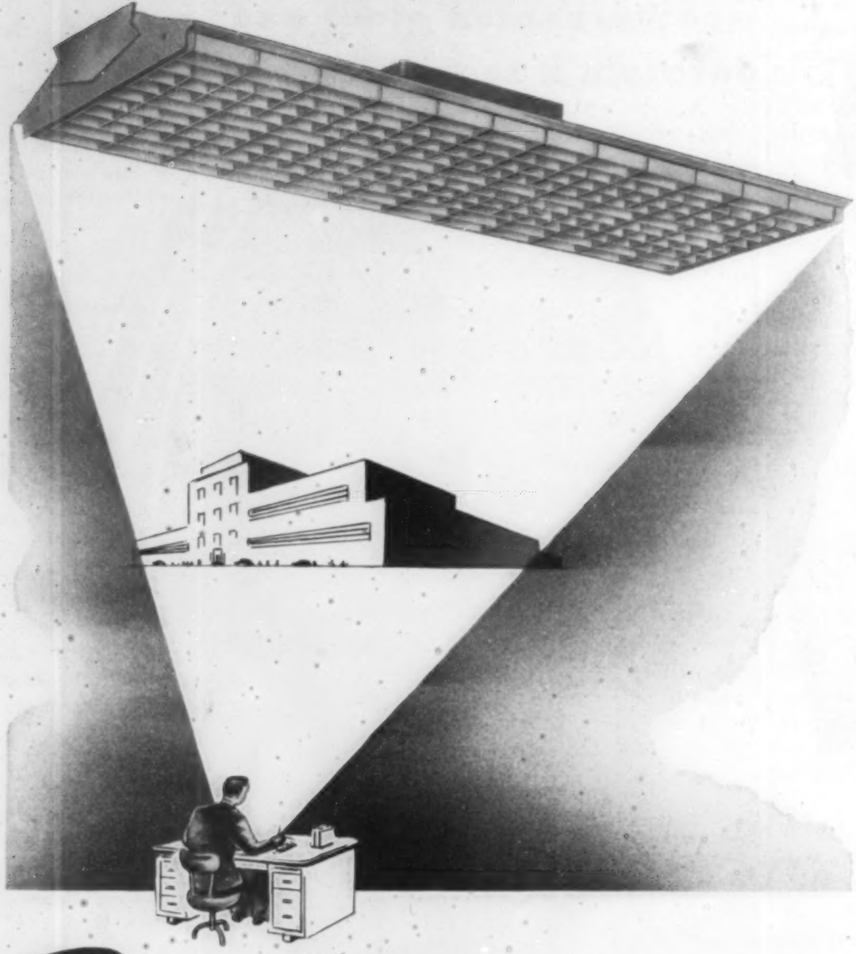

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REQUIRED READING

(*Continued from page 28*)

ings along the Welsh Border, and the remarkable structural timber-work of East Anglian hammer-beam roofs. In the course of historical and critical development under each heading, the author turns up and down such a number of related and contributing byways that the book provides immense cultural, social, and political information and entertainment, in addition to important and original material concerned purely with the development of local styles in English architecture.

BASIC FACTORY PLANNING

Planning Industrial Structures. By Clarence W. Dunham. New York 18 (330 W. 42nd St.), McGraw-Hill Book Co., Inc., 1948. 6 by 9 in. 480 pp. illus. $6.00.

Without presuming to tell architects anything about esthetics, the author has written an immensely practical book dealing with that area of planning industrial structures in which the architect and the engineer work together. The book deals with the principles and planning of structures that precede the engineering calculations: the choice of materials and general type of construction; discussion and illustration of good practice in building with steel, wood, and concrete; and considerable discussion of the basic action of structures, especially those used in industrial construction. The book nevertheless is exceptionally well illustrated with structural details.

Although structure and allied matters occupy the bulk of the book, there are chapters also on daylighting, electric lighting and power, ventilation. Here again the book is concerned more with basic planning than with the details and calculations of the final engineering. The author is Associate Professor of Civil Engineering, Yale University and a Consulting Structural Engineer.

ADDENDA

The attractive and logical Redevelopment Plan for Grand Haven (ARCHITECTURAL RECORD, Feb., 1948) was completely developed as a collaborative thesis by the authors when students in the Department of Architecture, University of Cincinnati, under the direction and criticism of Dean Ernest Pickering and Mr. Marshall Rainey.

Credit should have been given to the firm of Edward E. Ashley, consulting engineers, for their work in connection with mechanical, electrical, and lighting of the Lord and Taylor Westchester Store, ARCHITECTURAL RECORD, Apr., 1948.

A PAUSE THAT REFRESHES

In the spring each year there comes a pause in the everyday work of the architect and he journeys to some pleasant spot (at least by proxy) to convene with his fellows. This year at Salt Lake City he will discuss with them a most important and interesting theme, "Fundamentals of Design." The fact that the basic principles of design have been chosen for consideration and discussion indicates the profession's recognition of a need for the clarification of its philosophy of design. "Real fundamentals" is a rather all-inclusive term which embraces practical and technical considerations as well as esthetic — firmness and commodity as well as delight. But if we read aright between the lines, the emphasis this year would seem to be less on the mechanics and more on the mores of the art and their possible present-day mutations.

This may seem to imply a certain uncertainty regarding design criteria and a healthy desire to appraise current trends and to establish (or re-establish) standards of design evaluation. It is significant in that it indicates a change of emphasis, a trend toward the integration rather than the segregation of the practical, technical, materialistic factors with the esthetic, humanistic, or spiritual values of design.

The Institute's seminars thus seem designed to be enlightening not only in determining and defining fundamentals, but in ascertaining what effect such sciences as sociology and physiology may have on them and on their application to specific design problems. At some time the profession might consider the impact of economics and politics* as well. It would be worth while also to review the latest findings of the psychologists as they relate to the effects of size, shape, color, texture, light, air and temperature, etc., on average humans as well as on the trained and sensitive. Such broader knowledge of psychological needs, desires and reactions of the "common man" might help enormously in formulating valid and vital fundamentals of design. It might indeed be a mighty stimulus to the imagination and to creative effort. But no one convention could attempt to cover all the aspects of the "fundamentals of design" for that exhaustive discussion would leave no time for their application, and it is in their application to the planning and building needs of the country that they are put to the final test.

In this period of confusion, tension and conflict, there are like soul-searching efforts in many fields to reappraise values, to seek fundamentals, to reorient our thinking, to determine desirable ends and devise means for reaching them, in fact to grasp the sorry scheme of things entire if we could. It is well then, and perhaps inevitable, that architects should pause in their preoccupation with costs and cubage, clients' whims and contractors' extras, and all the necessary mundane minutiae of daily practice, and give thought to design fundamentals for a few days that they may continue to be "of ever increasing service to society." This pause that refreshes should provide a firm and broader base for renewed efforts to provide architectural design attuned to our expanding needs and our changing times.

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*See *"The Architect's Stake in Private Enterprise," by Miles Colean, F.A.I.A., page 97.*

Kenneth K. Stowell
EDITOR

"BEAUTY" FOR US

demands architecture of larger scope at vastly broader scale

By Douglas Haskell

Remarks made at the Ann Arbor Conference on Esthetic Evaluation,

University of Michigan, April 3, and edited for the RECORD

A LARGE and serene sanity will underlie any architecture, I believe, that we shall call beautiful; and the work will have to be done at far wider scope and vastly broader scale.

It is impossible for me to testify as other than a journalist, who has the habit of viewing events as of today, with one eye on the deadline. For the historian it seems possible to hover disembodied over time, like a cosmic humming bird or Barnaby's godfather in a helicopter. We, on the other hand, are intensely aware that any building has a life, a death, and only rarely a resurrection. Cynical realists are always reminding us that the building is erected as part of an operation. The designer tries for a certain kind of living beauty for living people in a living building. If he has been inspired, blessed, or just supremely lucky, all those aftermeanings of history which Dean Hudnut has so eloquently described are "added unto him," even after he and his building have both died. The original use has shrunk out of the living project, and into the graceful shell there has been poured a myth. Or, like the Parthenon, the building has died and is resurrected as a spirit.

I am trying to say that in his actual design the responsible architect seeks for everlasting qualities only through the present moment. We journalists live for the day and seek for beauty in the enhancement of immediate life.

WHAT can an architect do to make our life more "beautiful" through architecture?

That is something which a journalist can assuredly not answer, but he can report as much as he can see. We are concerned over a trend in certain quarters, which rips apart our publications and finds widely separated files for the technical news and for the glamour photograph. It is a trend which has scorn for engineering and technology as something cold, dry, and thin, and pretends that "art" finds totally different, and independent, sources of human feeling. Whereas it would seem as if the failure had occurred not in science itself but further along the way, through limited insight in *converting* the truth obtained by discovery, and verified by test, into human satisfaction.

Science and engineering have been not thin or weak but quite boundlessly and terrifyingly creative — half the world lies in ruin through the sheer creativeness of their mismanaged power.

One example must serve to show how basically scientific thought is transforming not merely architectural details but basic design theory:

It is interesting to note how completely our discussion of architecture as an art has been couched in terms exclusively visual, spatial, plastic. Meanwhile a generation of industrial engineers, crass, noisy, and commercial, has actually put under our noses a powerful aspect of architecture, just as the structural engineers, a century ago, began giving us new eyes and a new kinesthetics — a new visual rhythm and the possibility of structure as a new *dance*, floating, hovering. The tools of these present-day engineers are such crafts as "air conditioning," "thermal control," "sound conditioning," and all the rest. But what these add up to is a new totality of sense impact. When a warm radiance vibrates in your nerves, and fresh air fills your lungs and pores, and the light is right and the sounds are right, and the air is charged with fragrance like that of blossoming clover, you are lifted far above a mean low level of life. There may be nothing new to *see*, and yet you are suffused with that "exalted sense of vigorous well being" to which health authorities have given the name of "euphoria."

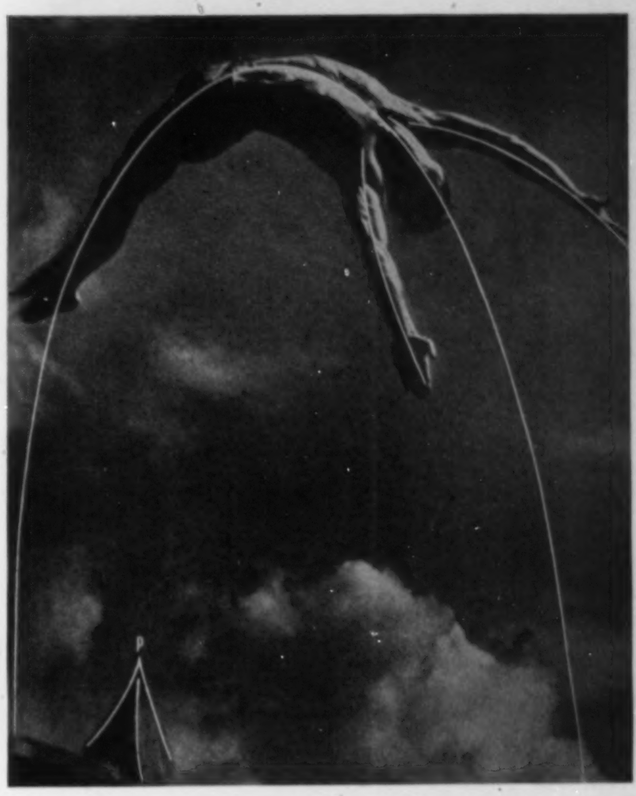
This systematic new activity, which lets architecture deal integrally with all the sense organs, not alone the eye, is charged with esthetic meaning. It leads to the profound difference between the concept of a "spatial" art and an art that harmonizes physical *environment.* This still retains all the resources of our accustomed "spatial" art; and yet the satisfaction of each new sense in turn raises the whole experience to a new power, a new vitalization.

The idea of architecture as an environmental art impinges not only on this question of sensuous richness but on social purpose, as expressed in "plan and elevation." Esthetically, we are told, architecture is an art of formal relationships, and this is true as far as it goes, and a great contribution has been made by the new researches into visual joy and into vision as a language. Yet my friend Harwell Harris, expressing himself in broader environmental terms, has said that he thinks of architecture less as a visual art than as a kind of music, setting up relationships which direct, pace, and condition the way in which people can live. He would be willing, he declares, to repeat whole series of visual combinations and motifs, a, b, and a', from building to building, and he wouldn't even fret if other people cribbed them from him wholesale, because the real essence of the matter lies not in the visual passages but in the manner in which the total combination serves and declares a specific living circumstance.

There are, we have said, whole groups of architects who complain of the meagerness and sparseness of modern architecture, who seek for "enrichment" or "expressiveness" or the "human heart" in all its sentiment. Considering the desperate needs of the world today, these architects might actually display more "heart" if they did not scorn simple research, even though it spoke of families with 3.8 children, and though it established nothing more than the needs of the woman in Alan Dunn's cartoon who wanted "not mutative continuity but a closet." Our mutative continuity we shall have to pull out of that closet. A more significant beauty will arise where this has been done with grace, and gratitude will supply the full sentimental halo. Sentiment comes; it cannot be designed.

Is it not, incidentally, a false reading of "sentiment" which associates it only with what is old and familiar, or else intentionally "sweet"? Gratitude is more intense where the architect has fully met his client's needs and beyond that has *awakened* the client — to his own role as creator. He becomes aware of the fresh elements in his own mode of life; his awakening is the architect's greatest pleasure. If architecture may be likened to music, then this response has the character of a dance.

This is especially true where the architect has opened the possibility that people may really play with their homes. People are always trying to play games, but compared to the artist they are repressed, and the chief game they seem to have arrived at in the domestic field is antique furniture. But when Alden Dow shows them how to let children climb chimneys and run safely over roofs, this is an assimilation of architecture that is charming.

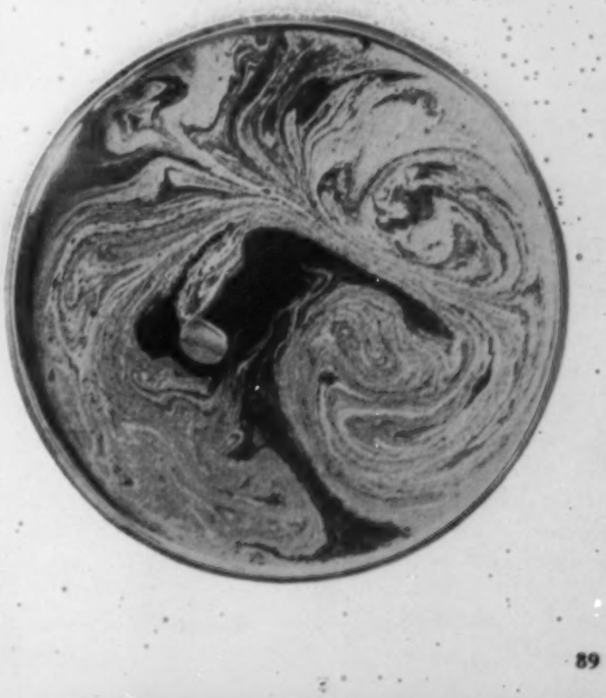


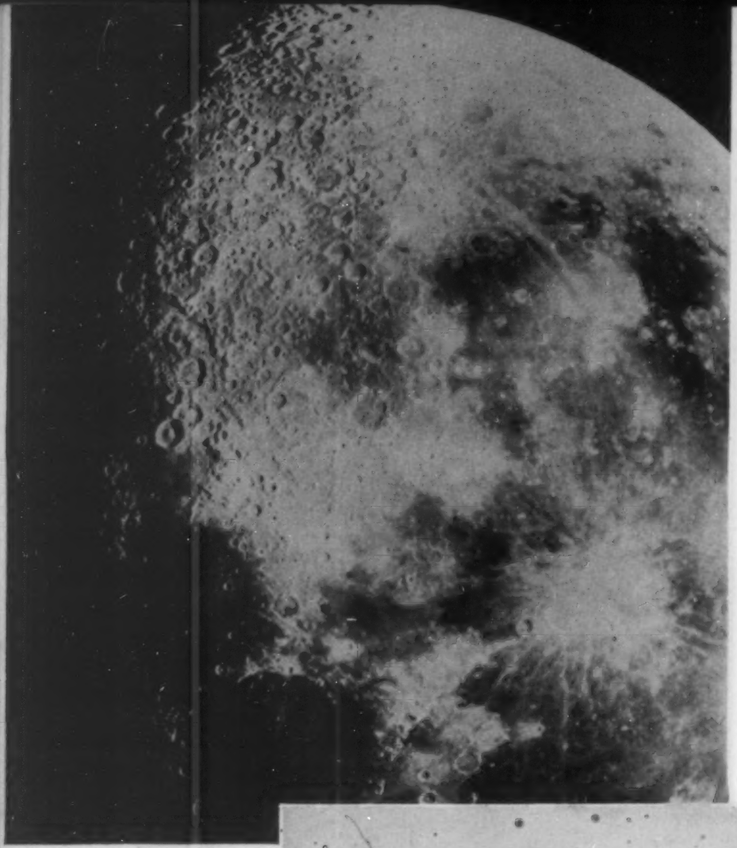
Karl Oeser Photo

". . . the structural engineers, a hundred years ago, began giving us new eyes and a new kinesthetic sense . . . the possibility of structure as a new dance, floating, hovering"

The satisfaction of senses other than the eye cannot be conveyed by the glamour photograph. This is the portrait of an aroma, but it does not look like a smell. "In an art that harmonizes physical environment, the satisfaction of each new sense in turn raises the whole experience to a new power." (Volatile emanation of a coffee bean in monomolecular layer, approx. 1/10,000,000 in. Copyright, Joseph Breitenbach)

Joseph Breitenbach A.R.P.S. Photo





"Man has become a major force of Nature"

THE concept of architectural beauty as something that grows out of harmonizing physical environment, and the thought that it should concentrate now on scope and scale rather than on richness and refinement, is the more urgent because of the situation of all mankind today. *Within recent decades — and not until recent decades — man has become a major force of nature.* Incomparably the most creative power in modern life has been not religion or art but science. Yet despite a certain great beauty in its processes and implements, the result has not been uniformly beautiful. Despite the terrible sublimity of the atomic cloud, we find no beauty in the total architecture of Hiroshima and Bikini.

According to Fairfield Osborn, in his new book, with its masterly urbanity and understatement, man as a force of nature spells despoliation and erosion, on a planetary scale, to a degree that is alarming. Projecting present trends into not too distant a future, he foresees an earth as dead and uninhabitable as the moon, and warns that man must cease defiance and "learn to cooperate with nature."

"an earth

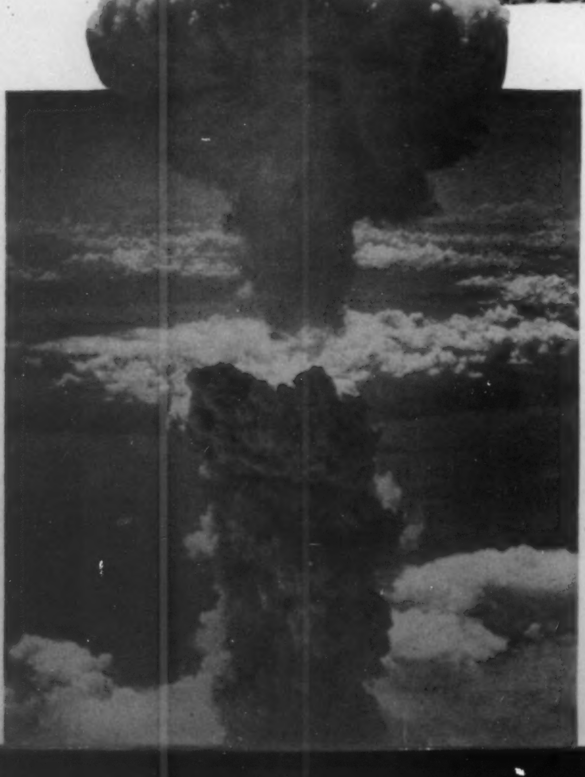
as dead

and

uninhabitable

as

the moon"



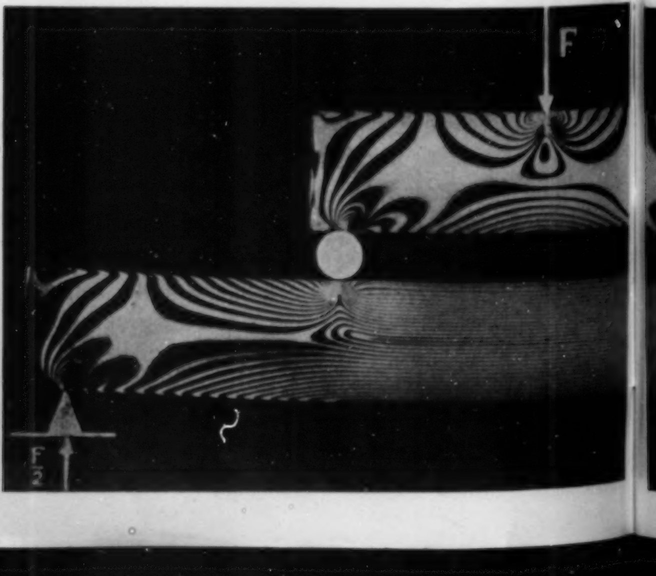
I LIKE to think that our new architecture, in its visible beginnings, intuitively symbolizes the healing power of cosmic cooperation among men, and between man and nature. Its most symbolic act is doing away with walls and stiff enclosure.

A thinner or non-existent wall demands that you must reconcile yourself with your enemy.

Then the way we bring flowers, trees, rocks, sky, pools, even waterfalls into our houses implies affectionate cooperation with nature which the *unconverted* power of industrial engineering and war has so violated. Again, we like to reach out from our buildings with all kinds of arms to embrace natural surroundings, and we like to mingle materials which our industrial science has transmuted with those other materials which have been formed "naturally" by Nature.

"THESE ARE THE WILD HORSES THAT

Left: Press Assoc. Photos. Below: L'Ossature Metallique Photo



IF we are sometimes overcome by the puniness in scope, extent, or breadth, of what we can add by our humble effort beginning on next Monday, then on a Saturday afternoon, at least, we are entitled to view the grandest prototype yet produced, and dig into its message of human feeling. Some may recall flying over the Tennessee Valley and glimpsing there the *possibility* of an architecture at vast scale, in which walls and roofs are relatively insignificant, and man as a natural force has evoked a more *humane setting* (the object of architecture) *directly out of Nature.* Yesterday Charlie Eames suggested to a sculptor the shaping of the earth — and that is what was begun in the Valley, again through the medium of potent engineering, and at supreme scale, for harmoniously creative purposes having at their core the concept of neighborly cooperation.

Whoever thinks that the architecture there consists of the dams and structures has never really seen the Valley — with the striking feature of its new water courses, flowing among fields reshaped by contour plowing, and threaded by freeways; with its planned balance between land formed and "cultivated" by man and that still reserved to Nature, and that occupied by communities; with the new growth of reforestation pushing up through the ruins of the soil. Surely all this appeals not only to the mind but to the heart, and all is architecture, the conversion of the earth into a beautiful place of human habitation.

Moreover it is in the Valley that we are developing previously unheard-of resources through the atom. Indeed, while architects sit and gossip about relationships between "building" and the "machine" the men in the Valley have reduced them both to the status of hammers and wrenches, both mere accessories, since the real secret of work is horsepower and energy conversion.

These are the wild horses that the dilettante seeks now to escape and that the architect of the future will have to ride.

Already we hear of experiments controlling climate out of doors, using no building at all, over large areas. Some twenty years ago there was made the fanciful suggestion of architecture that could convert environment without resort to building. Technology makes this now a possibility in fact.

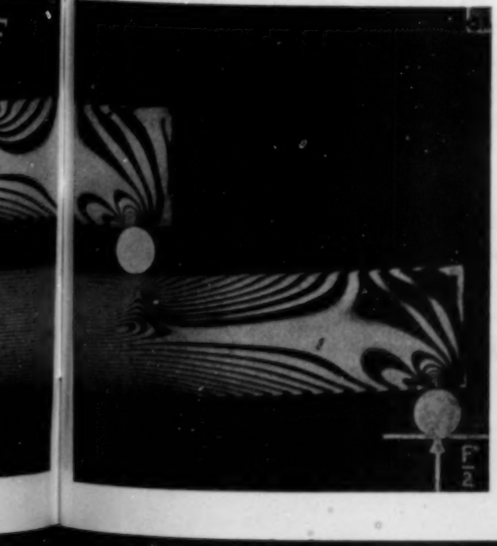
Thousands of years ago there was promulgated a myth of architecture that required no walls but supplied all that was needed for an unparalleled euphoria of life. It was the myth of the earthly Paradise. When we think of the incredible gap between the potential and the present condition, especially in Europe, we must revert to the conviction that whoever now seeks beauty must train his thought to be very large and very sane.

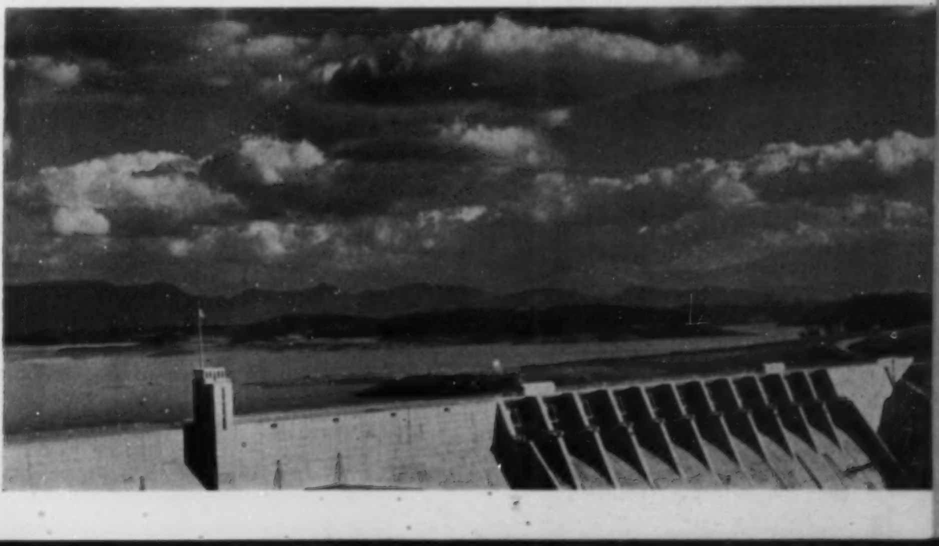
Philip D. Gendreau Photo

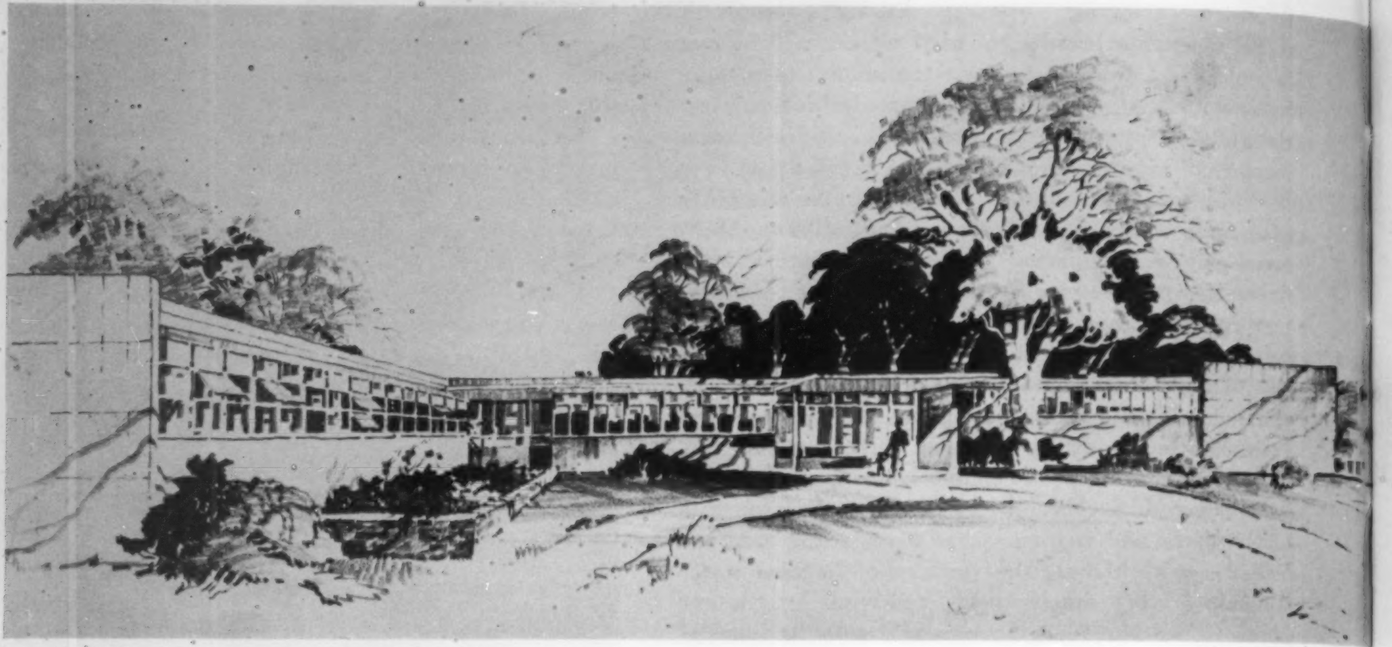
". . . at vast scale, in which walls and roofs are relatively insignificant, and man as a natural force has evoked a more humane setting directly out of Nature. All this is architecture, the conversion of the earth into a habitation"

THE ARCHITECT MUST RIDE"

Press Association Photo







Richard Collins Del.

25 BEDS

GENERAL HOSPITAL OF MINIMUM SIZE

An Additional Type Plan for the Coordinated Hospital System

THIS plan is a variation of the small general hospital. It has been stated that if fully adequate hospital services are to be furnished a community, it would be inadvisable to consider a hospital of less than fifty beds. However, the fact is that there are areas in the country where smaller institutions will be required. In most of these cases limited finances will demand the utmost in building economy, and will make a low per-bed area mandatory.

To this end, some departments have been condensed to the practical minimum, and in some cases different functions have been combined in one area. The emergency room, for example, can be used both as the treatment room and the out-patient room. Dental services also can be provided here although a separate dental room is preferable, if at all possible. No separate medical record room has been provided, but the space allowed in the business office is generous enough for this important function.

The more important principles of hospital planning have been observed in this plan despite its size and condensation of certain areas. The concentration of the administrative, clerical and service units will permit a limited staff to operate efficiently and economically.

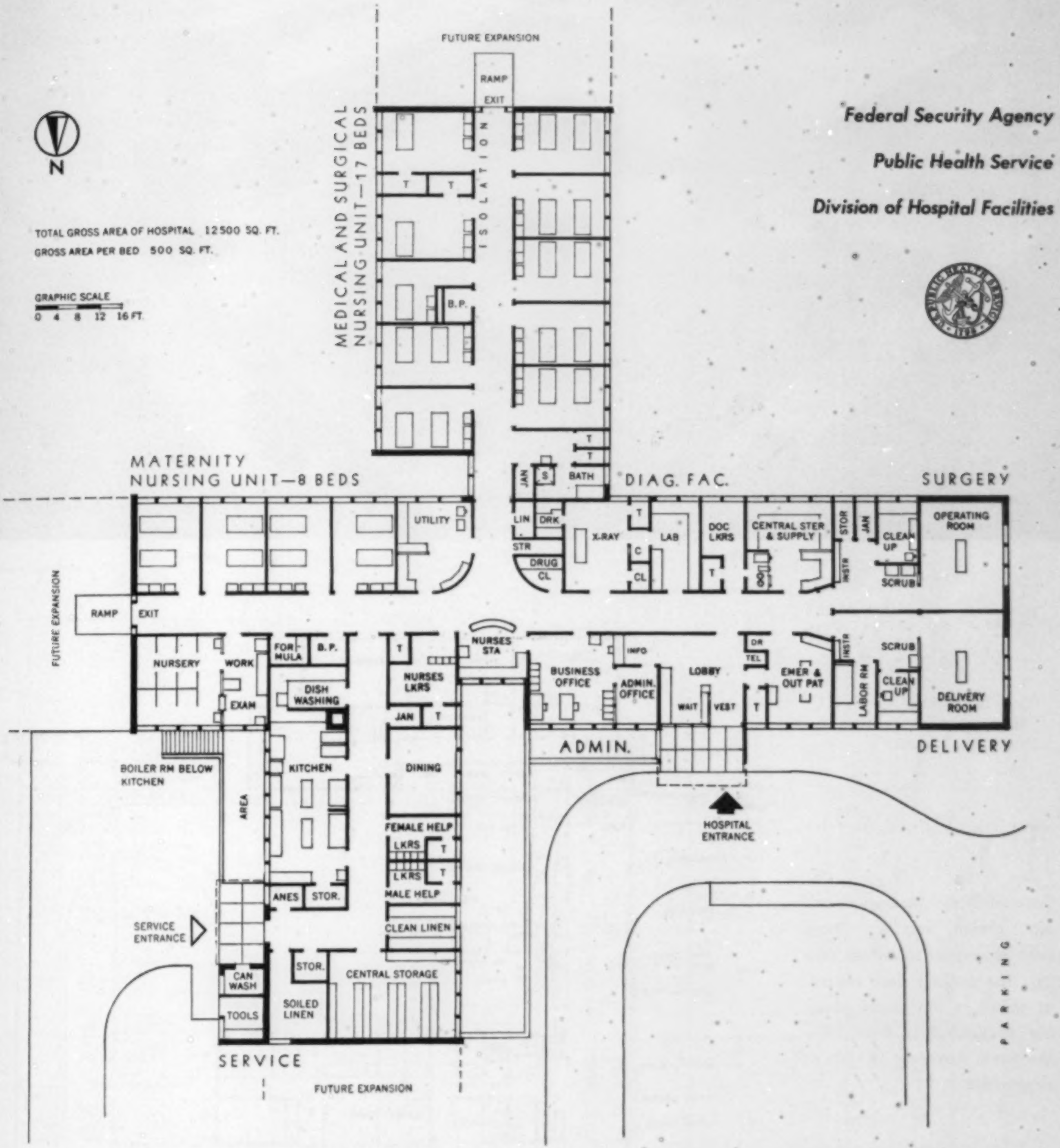
With these facilities general medical, obstetrical, and minor and emergency surgical cases can be cared for adequately. Since specialized surgical and diagnostic services could not be offered here, patients requiring such services would be referred to larger hospitals.

Inasmuch as most activities of the small hospital revolve immediately about it, the nurses' station has been located at the juncture of the two nursing wings to provide control of both corridors. Its relation to the business office and information counter allows the nurse on night duty to observe the lobby and to maintain control of the business office (when the clerical staff is off duty) without being isolated from her station.

The nursing units are well insulated from the street and service court. The maternity nursing unit has been given the south orientation and is separated from the other services — a highly desirable feature which is seldom found in the small hospital. The close relationship of the nursery to the maternity beds will save nurses' steps in transporting the babies to their mothers. A small formula preparation room has been provided, the formulas to be sterilized in the central sterilizing room. The utility room location makes it convenient to both nursing wings.

The surgical and delivery suites are located at a dead-end area, and are separated from each other and from the emergency room. Both these suites may be considered minimum.

The relation of the emergency room to the lobby, although certainly not good practice in the larger hos-


FUTURE EXPANSION
RAMP
EXIT
MEDICAL AND SURGICAL NURSING UNIT—17 BEDS
ISOLATION
T
T
B.P.
T
T
N
TOTAL GROSS AREA OF HOSPITAL 12500 SQ. FT.
GROSS AREA PER BED 500 SQ. FT.
GRAPHIC SCALE
0 4 8 12 16 FT.
MATERNITY NURSING UNIT—8 BEDS
UTILITY
JAN
S
BATH
DIAG. FAC.
SURGERY
LIN
DRK
STR
DRUG CL
X-RAY
T
C
CL
LAB
DOC LKRS
T
CENTRAL STER & SUPPLY
STOR
JAN
INSTR
CLEAN UP
SCRUB
OPERATING ROOM
FUTURE EXPANSION
RAMP
EXIT
NURSERY
WORK
EXAM
FORMULA
B.P.
DISH WASHING
T
NURSES LKRS
NURSES STA
JAN
T
BUSINESS OFFICE
INFO
ADMIN. OFFICE
LOBBY
WAIT
VEST
DR
TEL
T
EMER & OUT PAT
INSTR
LABOR RM
SCRUB
CLEAN UP
DELIVERY ROOM
ADMIN.
DELIVERY
BOILER RM BELOW KITCHEN
AREA
KITCHEN
DINING
FEMALE HELP
LKRS
T
LKRS
T
MALE HELP
ANES
STOR.
CLEAN LINEN
SERVICE ENTRANCE
HOSPITAL ENTRANCE
CAN WASH
TOOLS
STOR.
SOILED LINEN
CENTRAL STORAGE
SERVICE
FUTURE EXPANSION
PARKING

Federal Security Agency

Public Health Service

Division of Hospital Facilities

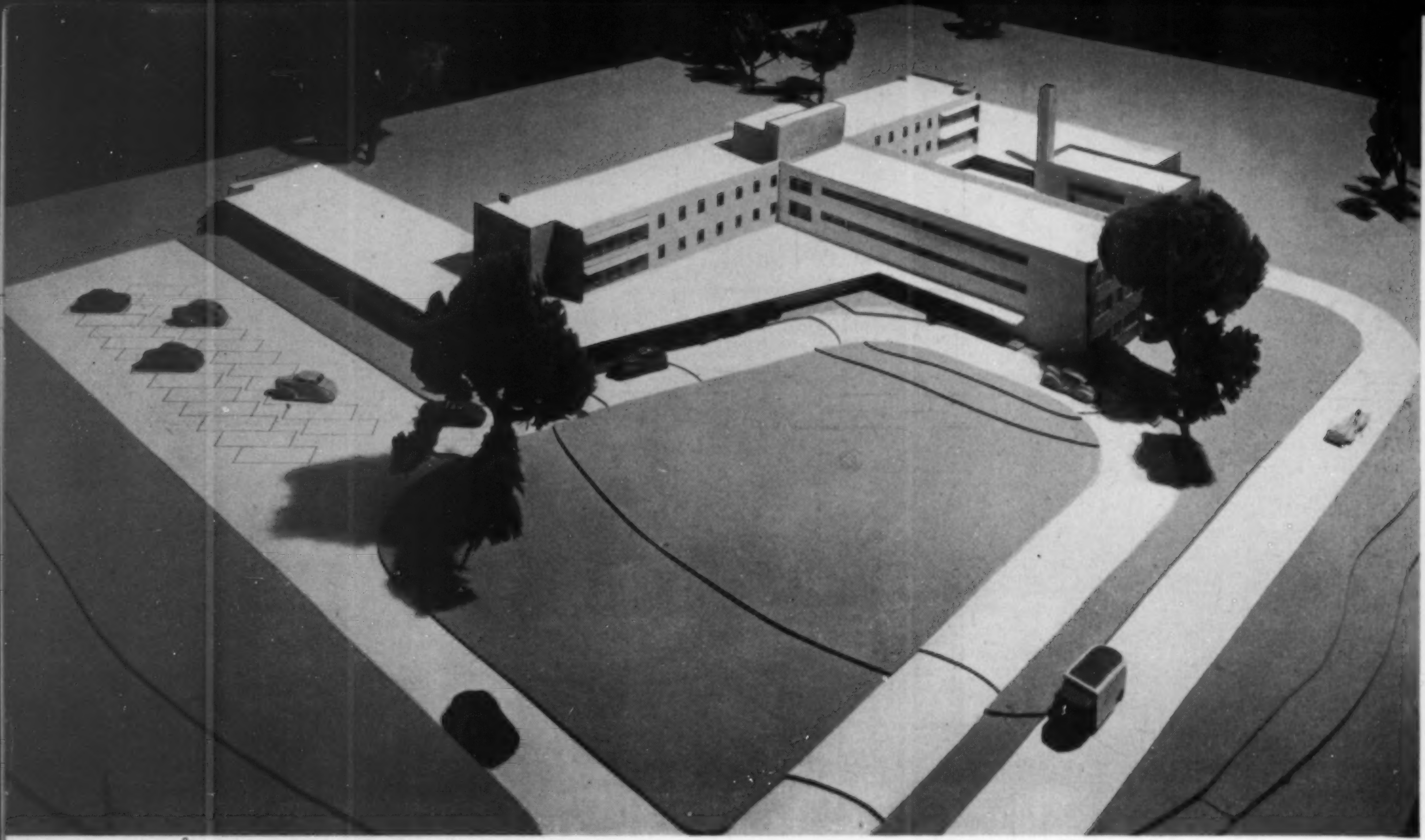
pital, is acceptable in the smaller institution where the volume of accident work is limited.

The service wing provides a minimum of storage space with a separate closet for the storage of equipment in general use. Clean linen storage is separated from the main storage room. The soiled linen room allows space for a domestic washer for laundering diapers; the rest of the linen would be done commercially, since no laundry is provided in this plan.

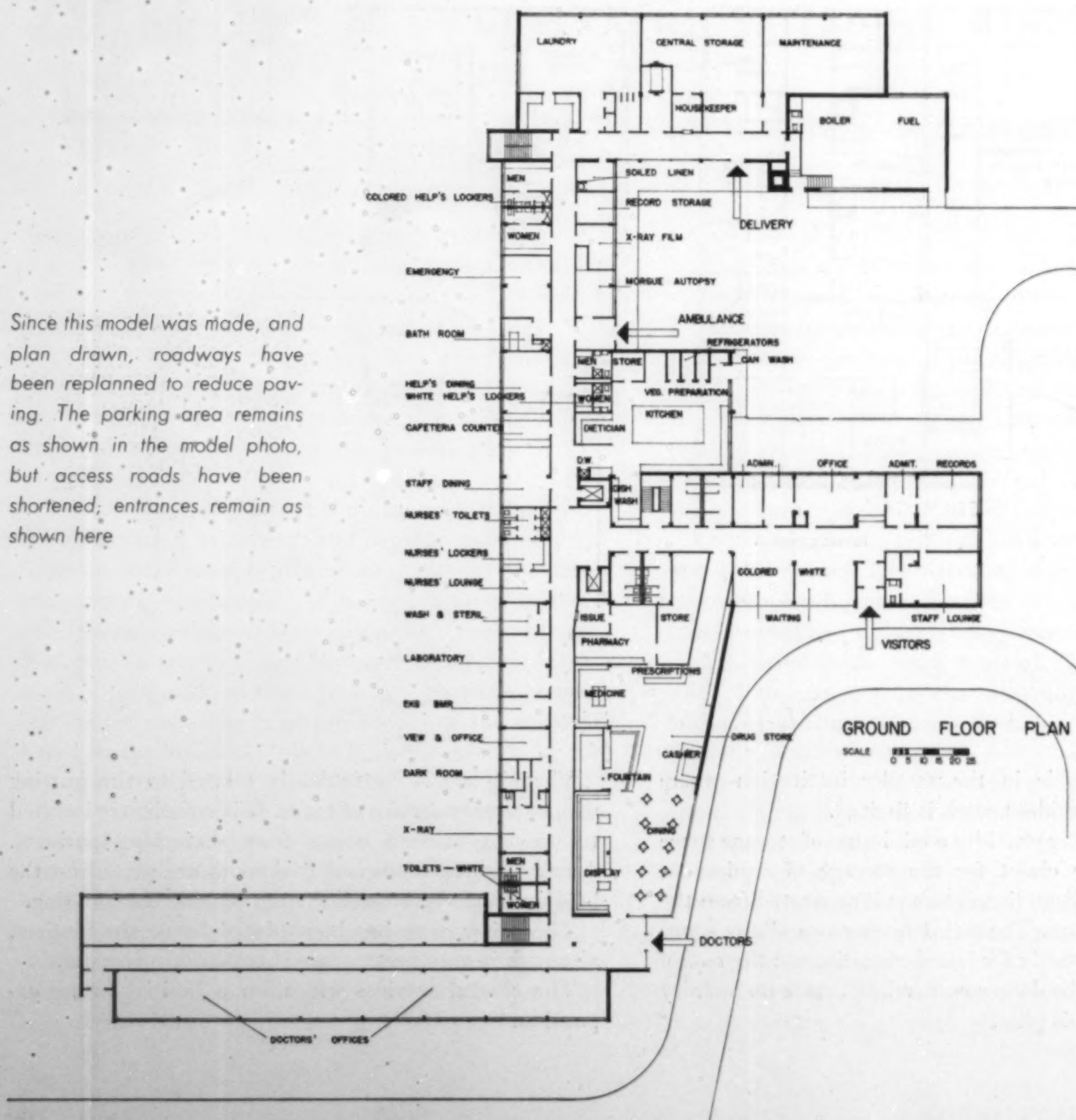
The kitchen is conveniently related to the nursing wings for easy service of trays. It is sufficiently isolated to prevent kitchen noises from disturbing patients. A can washing room and tool room are placed on the loading platform accessible from outside the building.

The boiler room has been placed below the kitchen, although it may be at grade if conditions demand.

The central services will allow a limited future expansion.



Hitchings Photos



GROUND FLOOR PLAN

LAUNDRY
CENTRAL STORAGE
MAINTENANCE
HOUSEKEEPER
BOILER
FUEL
MEN
COLORED HELP'S LOCKERS
WOMEN
SOILED LINEN
RECORD STORAGE
DELIVERY
X-RAY FILM
EMERGENCY
MORGUE AUTOPSY
AMBULANCE
BATH ROOM
REFRIGERATORS
CAN WASH
MEN
STORE
VEG. PREPARATION
HELP'S DINING
WHITE HELP'S LOCKERS
WOMEN
KITCHEN
CAFETERIA COUNTER
DIETICIAN
D.W.
DISH WASH
ADMIN.
OFFICE
ADMIT.
RECORDS
STAFF DINING
NURSES' TOILETS
NURSES' LOCKERS
NURSES' LOUNGE
COLORED
WHITE
WASH & STERIL.
ISSUE
STORE
WAITING
STAFF LOUNGE
PHARMACY
VISITORS
LABORATORY
PRESCRIPTIONS
MEDICINE
EKG BMR
DRUG STORE
SCALE
0 5 10 15 20 25
VIEW & OFFICE
CASHIER
DARK ROOM
FOUNTAIN
X-RAY
DINING
MEN
TOILETS — WHITE
DISPLAY
WOMEN
DOCTORS
DOCTORS' OFFICES

Since this model was made, and plan drawn, roadways have been replanned to reduce paving. The parking area remains as shown in the model photo, but access roads have been shortened; entrances remain as shown here

LARGE HOSPITAL FOR A RURAL AREA

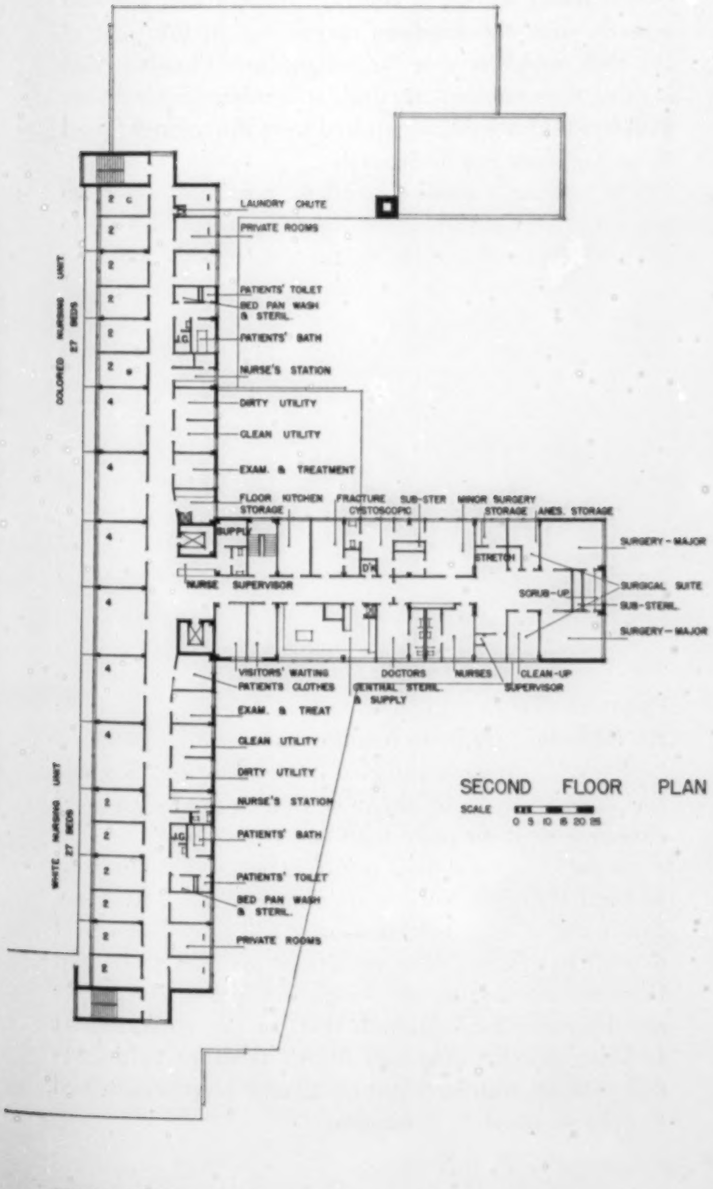
Crittenden County General Hospital, West Memphis, Arkansas

Dent & Aydelott, Architects: George Sheats, Hospital Consultant

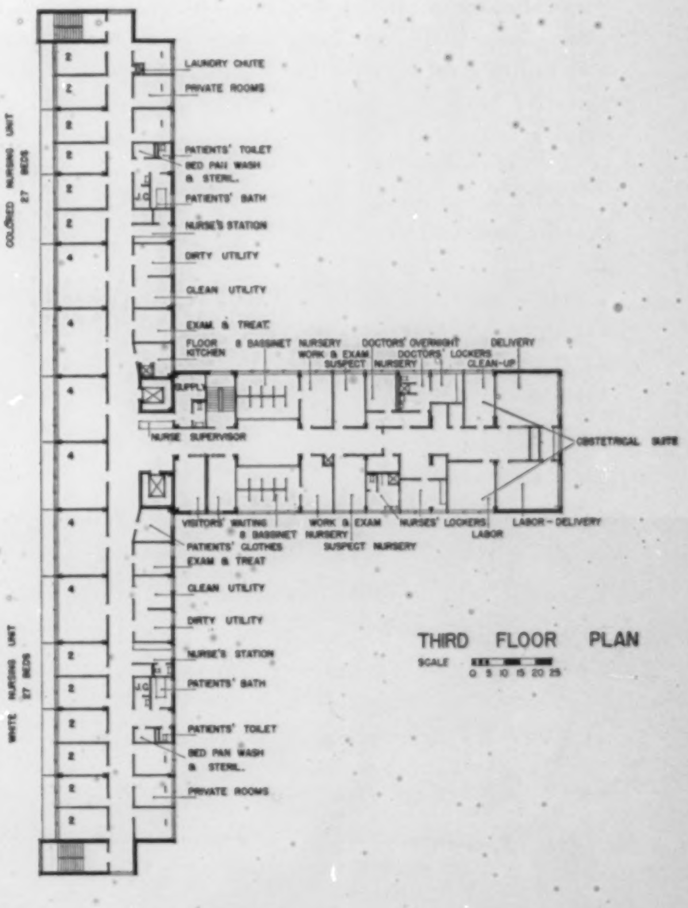
One of the earlier hospitals to be planned under the program of "Public Law 725," this one is an excellent illustration of the principal objective — providing modern functional hospital facilities for districts not adequately served heretofore. Though with its 108 beds it is larger than most that will be built in outlying areas, it does illustrate nicely the special needs of those locations.

It is an institution for the tenant-farmers or "sharecroppers" of Eastern Arkansas, formerly inconveniently cared for across the Mississippi in Memphis. The project was organized by a group of land-owners following one of the state surveys so long advocated by the U. S. Public Health Service. A tax levy, supported by popular ballot, anticipated a budget of $1,200,000; application for federal aid has already been approved.

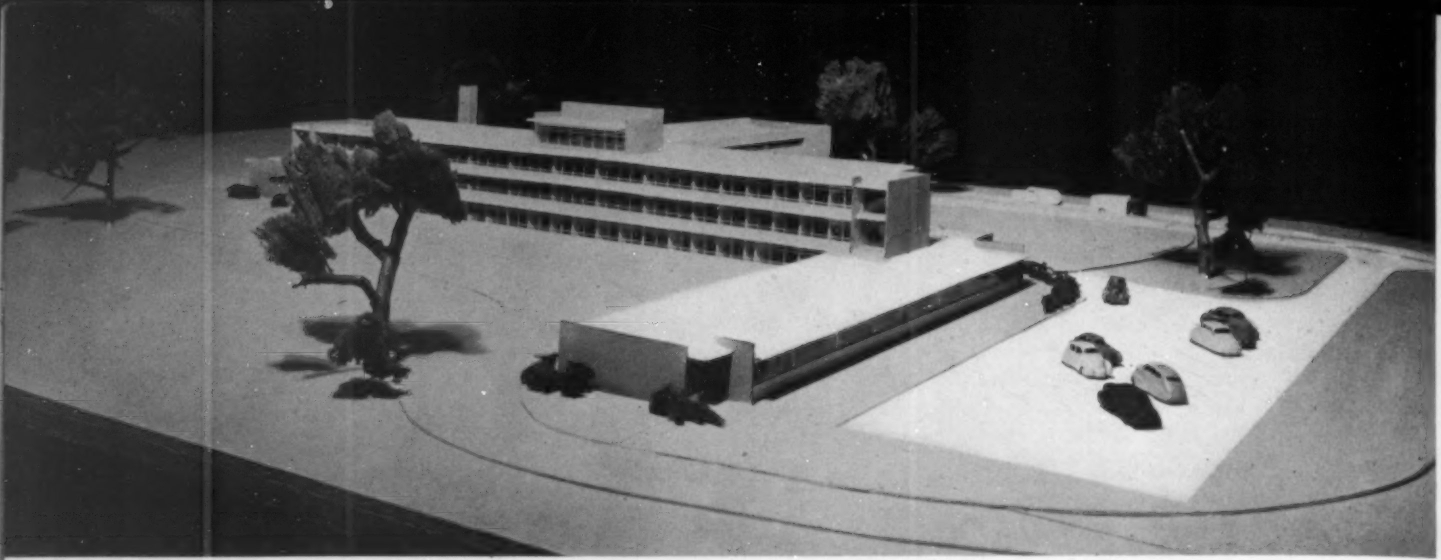
Crittenden County, a focal point of all Arkansas traffic through the south-central river area, formerly depended upon Memphis hospitals, but crowded conditions there, coupled with special needs of indigents,



COLORED NURSING UNIT 27 BEDS
LAUNDRY CHUTE
PRIVATE ROOMS
PATIENTS' TOILET
BED PAN WASH & STERIL.
PATIENTS' BATH
NURSE'S STATION
DIRTY UTILITY
CLEAN UTILITY
EXAM. & TREATMENT
FLOOR KITCHEN
STORAGE
FRACTURE
CYSTOSCOPIC
SUB-STER
MINOR SURGERY
STORAGE
ANES. STORAGE
SUPPLY
STRETCH
SURGERY - MAJOR
SURGICAL SUITE
SCRUB-UP
SUB-STERIL.
SURGERY - MAJOR
NURSE SUPERVISOR
VISITORS' WAITING
PATIENTS CLOTHES
DOCTORS
NURSES
CLEAN-UP
SUPERVISOR
CENTRAL STERIL. & SUPPLY
EXAM. & TREAT
CLEAN UTILITY
DIRTY UTILITY
NURSE'S STATION
PATIENTS' BATH
PATIENTS' TOILET
BED PAN WASH & STERIL.
PRIVATE ROOMS
WHITE NURSING UNIT 27 BEDS
SECOND FLOOR PLAN
SCALE 0 5 10 15 20 25



COLORED NURSING UNIT 27 BEDS
LAUNDRY CHUTE
PRIVATE ROOMS
PATIENTS' TOILET
BED PAN WASH & STERIL.
PATIENTS' BATH
NURSE'S STATION
DIRTY UTILITY
CLEAN UTILITY
EXAM. & TREAT.
FLOOR KITCHEN
8 BASSINET NURSERY
WORK & EXAM
SUSPECT NURSERY
DOCTORS' OVERNIGHT
DOCTORS' LOCKERS
DELIVERY
CLEAN-UP
SUPPLY
NURSE SUPERVISOR
OBSTETRICAL SUITE
VISITORS' WAITING
8 BASSINET NURSERY
WORK & EXAM
SUSPECT NURSERY
NURSES' LOCKERS
LABOR
LABOR - DELIVERY
PATIENTS' CLOTHES
EXAM & TREAT
CLEAN UTILITY
DIRTY UTILITY
NURSE'S STATION
PATIENTS' BATH
PATIENTS' TOILET
BED PAN WASH & STERIL.
PRIVATE ROOMS
WHITE NURSING UNIT 27 BEDS
THIRD FLOOR PLAN
SCALE 0 5 10 15 20 25



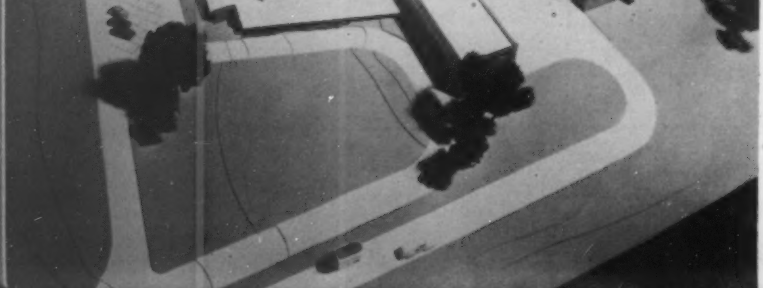
Hitchings Photos

made it logical to build on the Arkansas side. There is to be a new bridge connecting Memphis with West Memphis, another factor that points to development of the west bank area and makes logical this placing of a rather large hospital.

The consultant's analysis of needed facilities indicated a "district" type of hospital in the Public Health Service scheme, which would be aligned medically with Memphis physicians and surgeons, who would have courtesy staff privileges, and would thus broaden the range of services.

The hospital is therefore planned to handle: (1) surgical cases in orthopedics, eye, ear, nose and throat, gynecology, G. U., and brain surgery; and pathological and radiological services would be available on a consultative basis; (2) general medical cases, except psychiatric, tubercular and contagious; (3) obstetric cases, with all complications.

As for the planning, the basic point from which the scheme stemmed was the age-old segregation problem of the South, a problem handled here with good finesse. The bedrooms are arranged in a long row along the south exposure, in an off-set corridor scheme — utilities ranged at the north side of the corridor. Segregation can be maintained in the bedrooms and wards, but the color line can be shifted one way or another as demanded by varying patient loads. And the line is never a fixed physical barrier. Each half of the nursing wing has its own facilities and utilities, but the half-way mark can be as flexible as required.



Since the terrain is low and flat, and subject to high water in flood periods, there are no basement areas. Construction will be a concrete column and flat slab system, with the windows carried up to the soffit of the slab, which is also the ceiling line. Plumbing and heating runs are kept vertical, and cubage is about one fifth less than would be required were the ceilings furred down for pipes run horizontally.

The scheme contains excellent possibilities for expansion in the future. Elevator runs are carried up to the roof of the building, so that they could serve an additional 50 beds in another story over the nursing block. The doctors' office section could be extended either vertically or horizontally, still preserving its excellent relationship to adjunct facilities, drug store, and so on. The doctors' office section, by the way, is an interesting addition to the hospital concept, being a means of better integrating health facilities particularly in a largely rural district.

The service corridor is arranged so that a nurses' home, to be added at a later date on the west end of the property, may be connected by a covered passage.

Circulation is pivoted around the elevator lobby. The architects expect that separate use of the two elevators, one for passengers, one for service, will enable the important traffic to function more smoothly than if both elevators were assigned to double use. Keeping the height down to three stories, they feel, should eliminate need for more than two elevators.

As for exterior detail, principal walls will be architectural concrete, with aluminum casement windows. End walls of solid brick masonry will provide contrast as well as texture. The architects make it plain that they are attempting no design exhibition, but rather are designing for minimum cost, in the general effort to bring greatly increased health facilities to doctors and patients who have not up to now been accustomed to even an obsolete minimum.

THE ARCHITECT'S STAKE IN PRIVATE ENTERPRISE

By Miles Colean, F.A.I.A.

Consulting Economist

Former Assistant Federal Housing Administrator; author American Housing, 1944, 20th Century Fund Housing Survey; former vice-president Starrett Brothers and Eken, Inc.

Architects have always taken pride in their professional integrity and have striven to maintain their esthetic independence irrespective of the threats and blandishments of clients. They have also shown concern as a group with social betterment and have sought through the exercise of their talents to help create better houses and better cities. Far from seeing any conflict in these two purposes, they not only have considered them compatible but have felt that one properly served the other. The danger that this article will point out lies in the tendency of a quite proper enthusiasm for social betterment to destroy the very integrity and independence that has made the architectural profession an important force for civic welfare.

The danger arises from this circumstance: enthusiasm for social betterment begets impatience — impatience with the slow and often indirect methods that a private enterprise system must use to bring about improvements within its structure. Impatience begets an urge for a panacea, a quiet cure that will promptly remove all ills. The cure-all is invariably government action.

In the field of the architect's interest the argument runs in this now familiar vein. Private building enterprise has allowed slums to develop. Private building enterprise has selfishly concerned itself only with the demands of the well-to-do. It has neglected the broad purpose of a better city and a better society. It has failed to end slums. It has failed to build new houses for all income groups. It has failed, period. And since it has failed, we must turn to government to do the job.

Among the architectural profession, this conviction — amounting almost to a sense of guilt — has existed for a long time; and, as a group, the profession has supported every move to push the federal government toward greater influence, control and direction of building enterprise. Back in 1932, architects were prominent in urging direct government loans (through the newly formed RFC) for limited dividend housing corporations and in securing modifications in state laws to make this proposal effective. They were ardent backers of the first PWA Housing Division. Representatives of the A.I.A. testified in favor of the National Housing Act of 1934 and of the United States Housing Act of 1937. Through its official spokesmen, the profession has since supported the continuance and expansion of these and similar measures up through the present Congress.

The cynical might claim that this consistency of support represents merely desire to create more jobs for architects. But either architects have been deceiving themselves or the cynics are wrong. The architects hardly could have been deceiving themselves, for they already have had sufficient experience to know that the only jobs that government control of building is certain to bring about are jobs as employees of the governmental bureaus established to carry out the various programs. When work is given to architects in private practice it is always at the option of the bureau and never as a matter of right, and then usually only because of the vigilance and pressure of the profession's representative.

Throughout the depression period, for instance, when professional offices were in the direst need of work, the federal public building program was almost exclusively a bureau program. Today the veterans' hospital program, after various vicissitudes, threatens again to be a bureau program. The architect has had a look-in mainly when the amount of work was great and the need for speed did not permit concentration under the bureau roof, and then frequently under such close direction as to make professional independence and integrity a fiction. The long, wavering, and unending battle with the bureaus to permit the participation of independent private architects is a well known chapter in professional history.

Certainly from any long range view, therefore, the architects, in their advocacy of governmental intervention in housing hardly could be accused of seeking to advance their own selfish interests; and the history of the housing agencies provides ample evidence that architects did not achieve through them any improvement of their independent professional status.

The Architect and Public Housing

Let us first take a look at the record of the public housing program. As first embodied in the limited dividend housing program in 1933 and 1934, private architects in considerable numbers participated in housing schemes for submission to the federal authorities. The applications piled up in the office of the PWA Housing Division. In most cases the proposals did not meet the tests of financial soundness that the Division had set up. But, as the policy of the Division shifted from one of private loans to direct grants, another reason for rejection quickly appeared — the architectural designs were in most cases not satisfactory to the official examiners.

To be sure, these examiners were architects, but they were architects now clothed in the mantle of authority. Confident of their own planning principles, they imposed them with increasing rigidity on their brethren who were employed, often at the behest of the Division, by the local official or quasi-official groups which sponsored the projects. As the program grew in scope (particularly after the creation of the United States Housing Authority in 1938), the jurisdiction of the federal agency over design was expanded.

Architects for the separate projects were still private practitioners. But they were now selected by local official bodies subject to the approval of Washington officialdom. The relatively small number of firms receiving commissions was often explained by the fact that housing project design was a new art and that the number of architects who understood its principles was small. At the same time, the agency architects proceeded to perfect these principles according to their own special inspiration and to dictate in greater and greater detail the character of the planning, both by the publication of model plans and by the close checking of all individual designs. The considerable variety of design that had characterized the earlier work of the PWA Housing Division was lessened until a monotonous similarity was the outstanding characteristic of public housing.

The process reached its ultimate during World War II. In that period, the agency developed standard plans in complete detail accompanied by completely detailed standard specifications. These were given to private architects, who, under close official scrutiny, were assigned the task of adapting the standard plans to special site conditions. Rarely were any changes permitted in the official plans and specifications; and supervision of the work was wholly removed from the architect's jurisdiction (except when some trouble arose in which his advice was sought). The excuse was the urgency of the war: there was not time for experimentation and individual planning; moreover, there weren't enough architects sufficiently competent to handle the work in relative independence.

What of the future? There is no evidence that the trend will be changed. The inactive years since the war have given the Public Housing Authority opportunity to review, study and develop its own architectural theories. We may confidently expect that the architects on future projects will be no less fully instructed than in the past. Moreover, as a program of this sort settles into its groove, it invariably becomes more and more political. Selection of architects will be primarily in the hands of local official agencies which in themselves are bound to become increasingly subject to political forces. The tendency to reward friends and to parcel the work among a coterie of the faithful seems inescapable.

Just where this leaves the independence and integrity of the private architect, it is not difficult to say. The extent to which his work is pre-cut for him or eliminated from his jurisdiction by the agency makes a high degree of professional competence unnecessary. Docility rather than ingenuity, resourcefulness, and independence, becomes the most desirable quality he can offer.

The Architect and the FHA

The history of the architect's relationship to the Federal Housing Administration, while it follows somewhat different lines, ends up in approximately the same place. The FHA operation falls into that category of governmental activities known as "aids to private enterprise." On the face of it, it is simply a financial institution engaged in the prosaic task of insuring mortgages on residential property made by private lending institutions. This task would seem to keep it remote from any immediate impact on the freedom of the architectural profession. But not so.

In the first place, if you are going to insure a mortgage, you will want to be as certain as possible that the mortgage is sound. In order to do this, you must see that the structure that is the security for the mortgage is a good one. You will have your own ideas about what is good and what isn't and, since, as an official, you are responsible for the outcome, you will, to the extent that your power lets you, impose your standards of goodness on those who seek your aid.

So you begin by setting up standards of sound construction with which all mortgaged properties must comply. These become in effect little building codes for housebuilding. They are written in specification form like most other building codes, and, as time goes on, they become more detailed and more rigid. But the structure is only part of the problem. Neighborhood layout has obviously an important bearing on mortgage security. So you establish neighborhood planning standards as well as construction requirements; and, since this is difficult to do abstractly, you undertake in each case of a new subdivision to tell the applicant what he should do. Seeing that this meets a fairly docile reception you begin, by publishing model designs, to tell the applicant the kinds of houses you would like him to submit. He submits, in more ways than one.

But these relatively simple matters do not mark the end of official influence. An important test of mortgage soundness is whether, in case of foreclosure, the property would find a ready market in the community. This test of marketability permits you to range widely over the whole area of design and to make determinations not only as to room sizes and arrangements and basements or no basements, but as to architectural style as well. So your judgment as to what will sell promptly leads you to dictate in these matters.

It is of course possible that your ideas are right and that the program is the more successful because you are able to enforce them. But you have inevitably limited the range of private decision. The applicant, who is a busy man with money at stake, finds it more profitable to follow your instructions than to argue with you. So the word is passed on to his designer, "Find out what they want and give it to them."

In the realm of rental housing, these tendencies are more pronounced. The FHA has always followed the practice of examining individual rental housing plans as closely as the Public Housing Authority has the plans for public projects. The examining process is unavoidably time-consuming, but, if it involves consideration of some unconventional concept, it may become indefinitely protracted — and even then may end in rejection. The simplest procedure is, in the first instance, to offer what is known to be acceptable. Originality, experimentation, and other argument-provokers and time-consumers are to be avoided.

The result is plain in the standardized colonialesque style of most FHA rental projects, and in the very conventional character of most individual houses financed with insured mortgages. Again, where does this leave the architect? Certainly not as a free, creative force. Even in a supposedly "private enterprise" program he finds the hand of government guiding his pencil. It will be contended that not all FHA houses are conventional; and this, of course, is true. But where it is true, it is due to the liberality of the examiner. It is his, rather than the designer's, decision that is final. And, the greater the dependence of builders and owners upon the government aid, the greater will be the finality of the decision.

Government Intervention Means Extinction for the Architect

Thus whether the government influence is exerted through the means of direct contracts, loans, or subsidies, or through mortgage insurance and similar aids to private operators, the result in limiting the creative freedom of the architect is substantially the same. The result is necessary and inescapable in the interventionary process: wherever government carries the responsibility, government will set the rules and make the decisions.

In the process of bureaucratic evolution the range even of official decisions tends to be lessened. The setting of standards tends to a freezing of standards. A constant fluidity is disruptive to administrative procedure; and it is both easier and more economical to follow a fixed pattern than a constantly changing one. In the same process, it often appears easier to do the architectural and site-planning work within the agency than to spend what may be an equivalent time in examination, discussion and revision of the work of others.

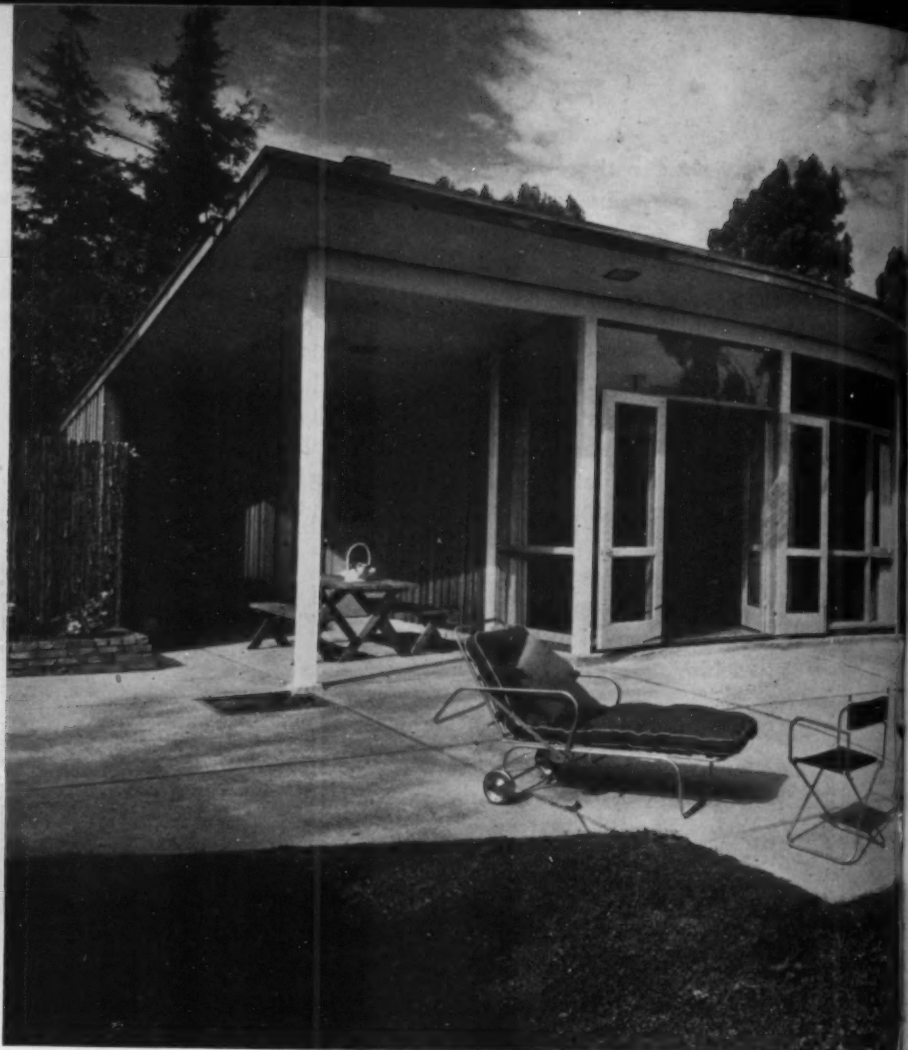
Against such forces, the private architect can offer little resistance once they are well set in motion. We need only to look to England to see how he fares when governmental intervention in the construction field is complete. Work becomes narrowly concentrated, wholly under the domination of government where it is not done directly by government; and the architect as an independent factor in society is gone.

There may be some architects who believe this outcome of an interventionary program can be avoided, but the facts argue against them. There may be some who accept the proposition that, if their future status is to be that of bureau functionaries, their service to society need not be lessened thereby. But this proposition is certainly questionable. Without diminishing the contributions of many sincere and able architects now serving in government agencies, it can be suggested that their contributions are possible because the opportunities of private practice are still open to them and because there are courageous and independent practitioners on the outside to lead the way and lend them support.

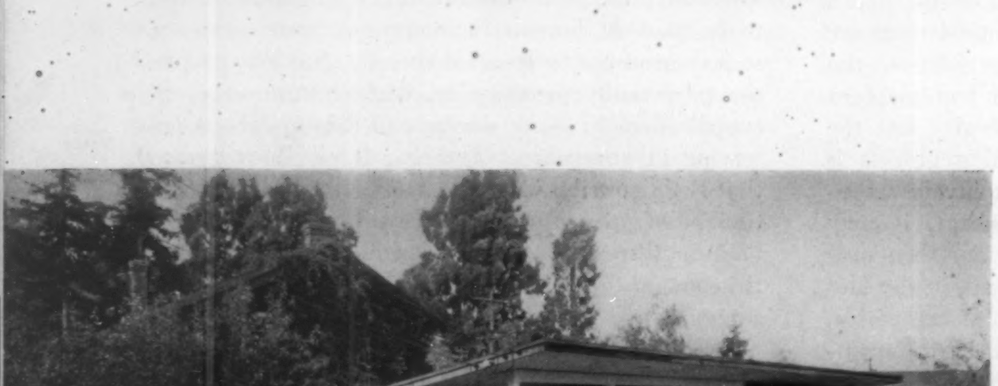
There *is* something in the ideas of artistic integrity and creative freedom that the architectural profession has sought to maintain, and that something is important to a free society. But, by the same token, it is possible only in a free society. If architects, in their impatience at the slowness of achievement in a private enterprise economy, seek the supposed short cuts of an interventionary economy, they will solve neither their own problems nor those of the society they mean to serve. Instead, they are likely to eliminate themselves as a vital influence; and that loss in the end is bound to retard the progress they are intent upon. There are no short cuts to the millennium.

Ritchie Lowry House,

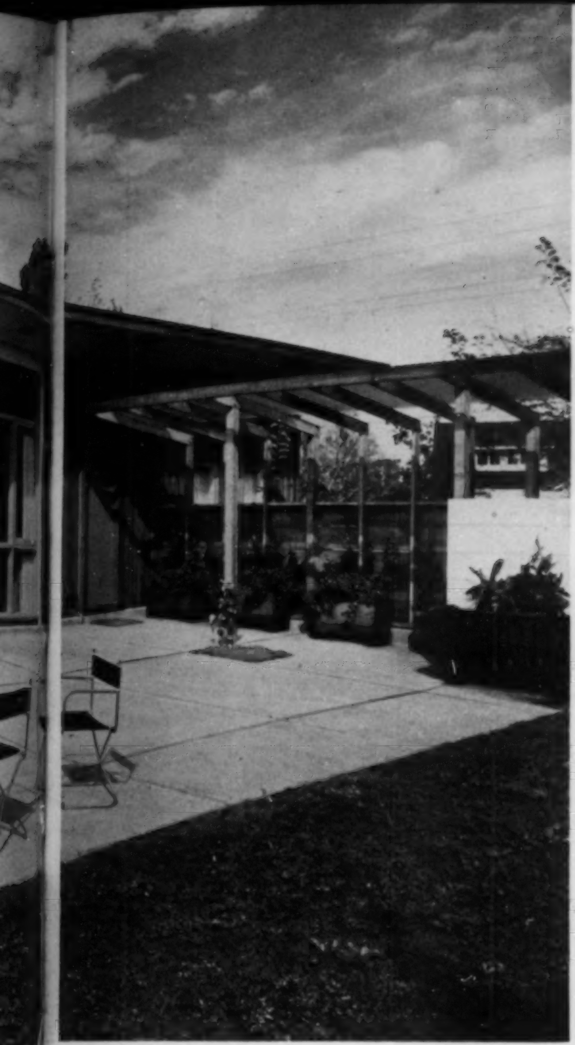
Burlingame, Calif.



SPACIOUS PRIVACY ON A SMALL LOT

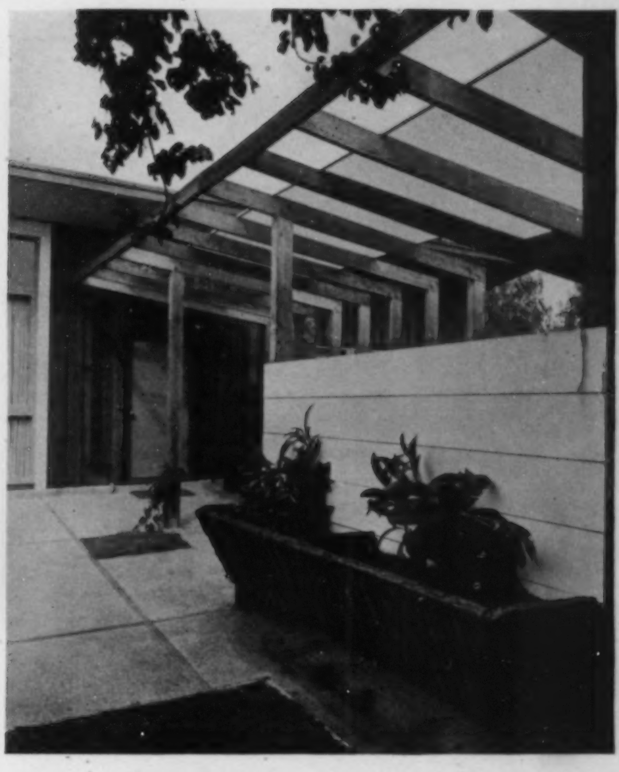


Expert disposition and interrelation of elements achieve qualities here of mountain remoteness amid suburban surroundings, and of almost manorial spread within dimensions strictly appropriate to the needs and means of a young couple. Northern placement of the house protects out-of-door spaces from witness and weather, prevailing from this direction. The pitch of roof and wide overhang give shade to the terrace side in suitable season, and during the cold months admit maximum sun to the living room. Detachment of garage, with interconnecting arbor, contributes to the general effect of seclusion and expanse.

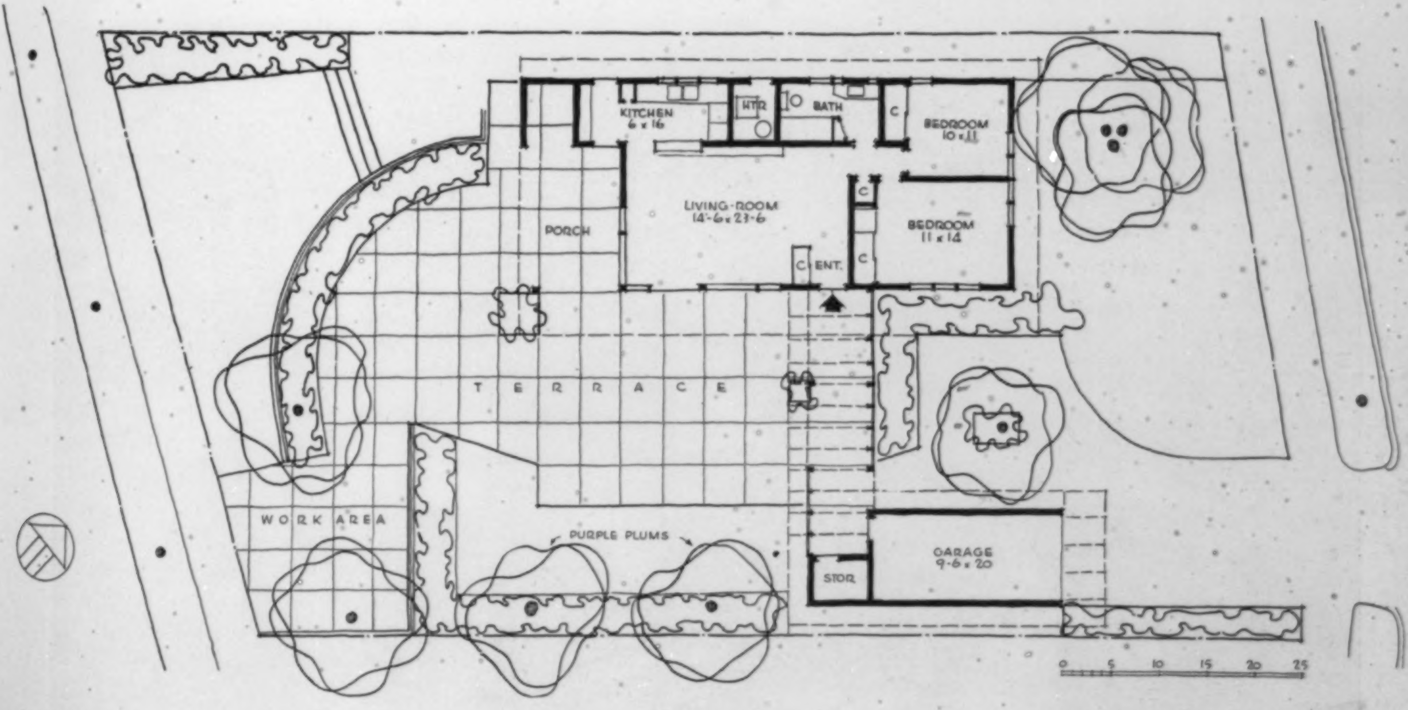


Left: roof is tar and gravel laid on 1-in. sheathing; screened vent to insulation space (discernible along edge of carrying beam) is matched by similar provision at rear of house. Below: glass-roofed arbor shields traffic from garage to house without precluding sun. Garden and landscaping designed by Douglas Bayliss

Stone and Stecatti Photos

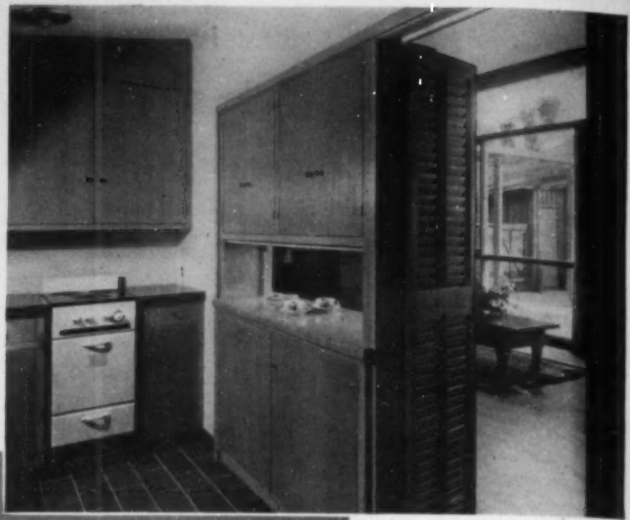


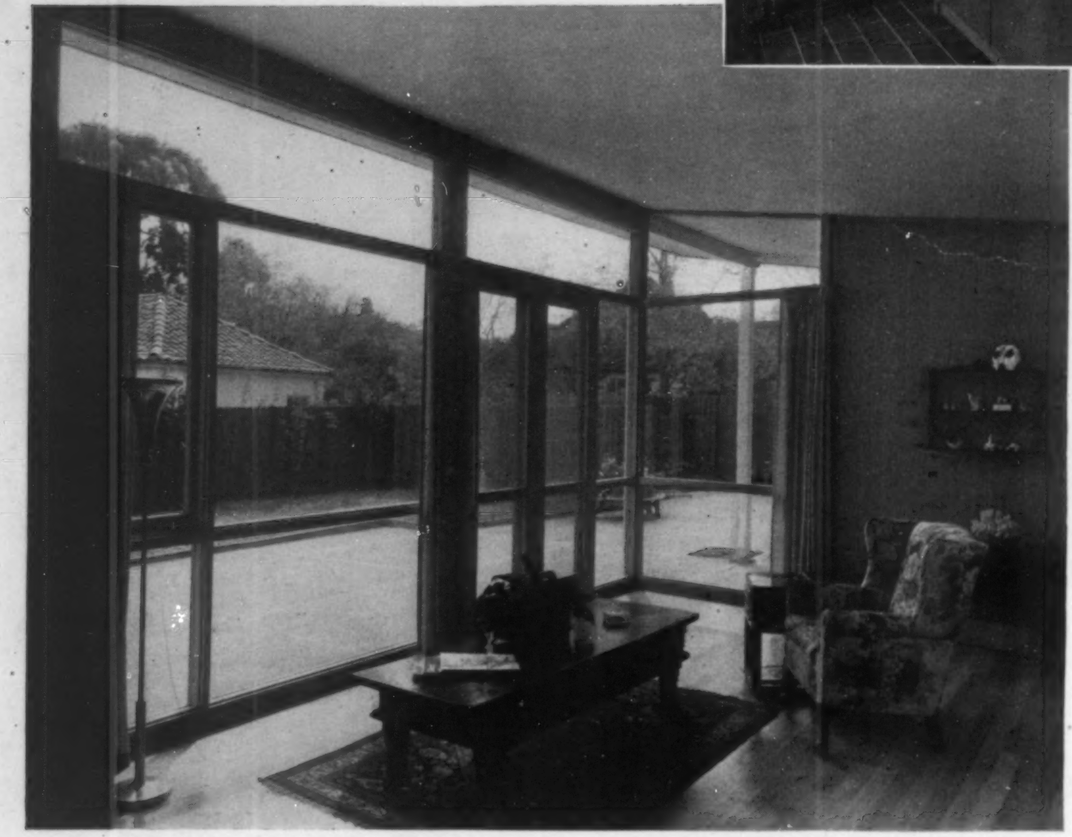
Francis Ellsworth Lloyd, Architect

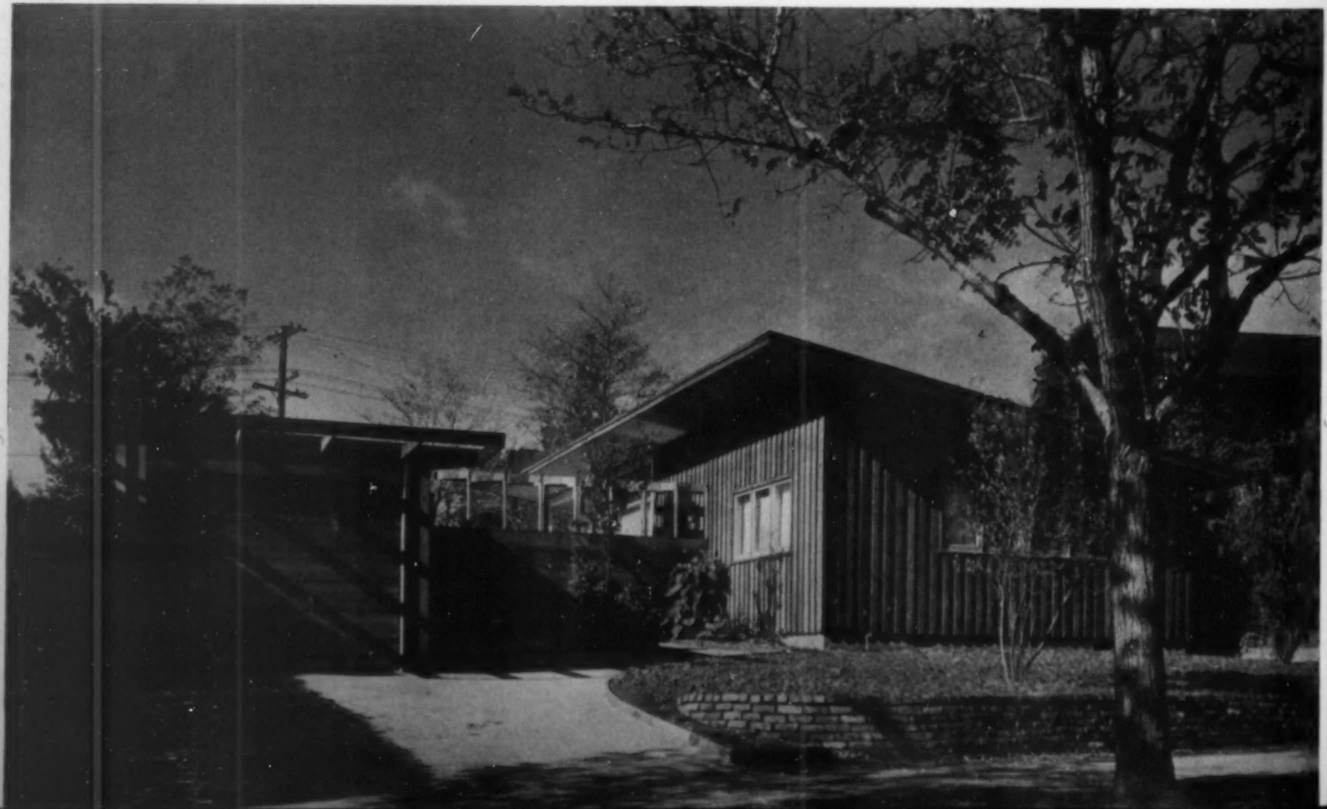

KITCHEN
6 x 16
HTR
BATH
C
BEDROOM
10 x 11
LIVING-ROOM
14'-6 x 23-6
PORCH
C
C
BEDROOM
11 x 14
C
ENT.
TERRACE
WORK AREA
PURPLE PLUMS
GARAGE
9-6 x 20
STOR.
0
5
10
15
20
25

Right: kitchen placement (see plan) provides equal ease in service to living room and garden. Center: inside finishes are plaster board and combed plywood; exterior walls are rough board and batten

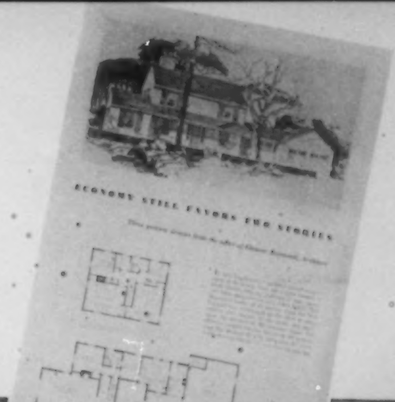
Stone and Steccati Photos



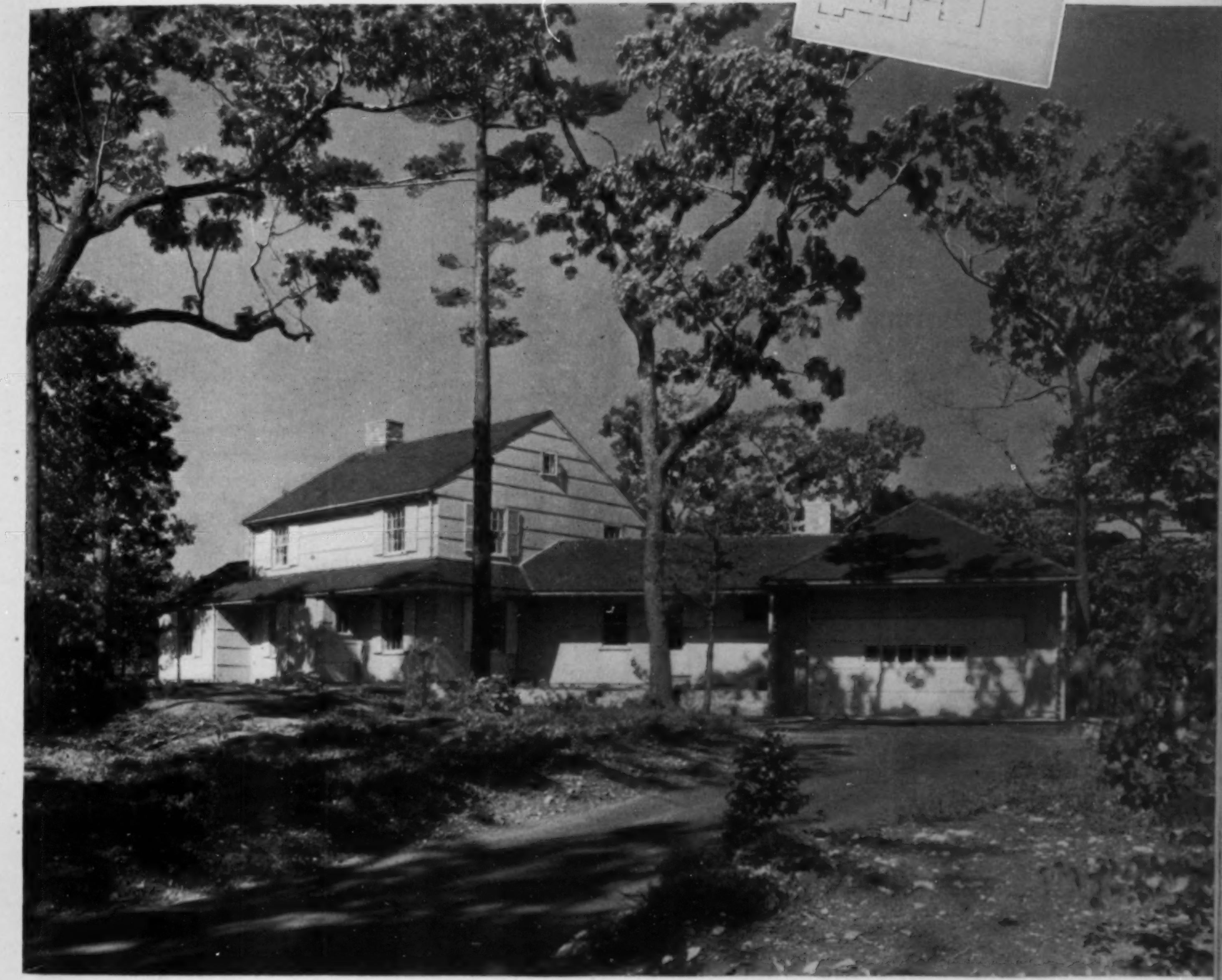




ECONOMY STILL FAVORED THE TWO-STORY TYPE



ECONOMY STILL FAVORS TWO STORIES



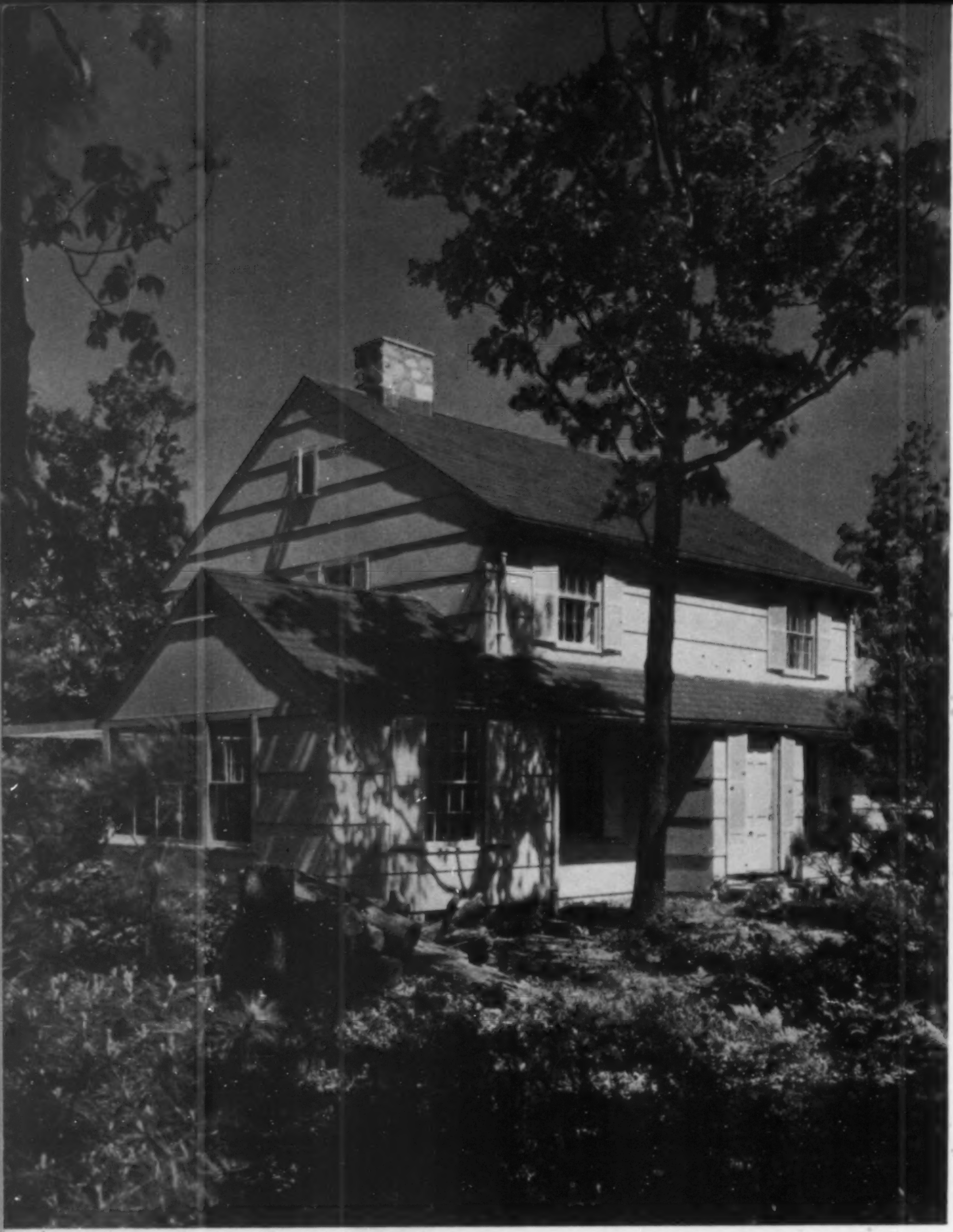
Haskell Photos

House in Winchester, Mass.

Eleanor Raymond

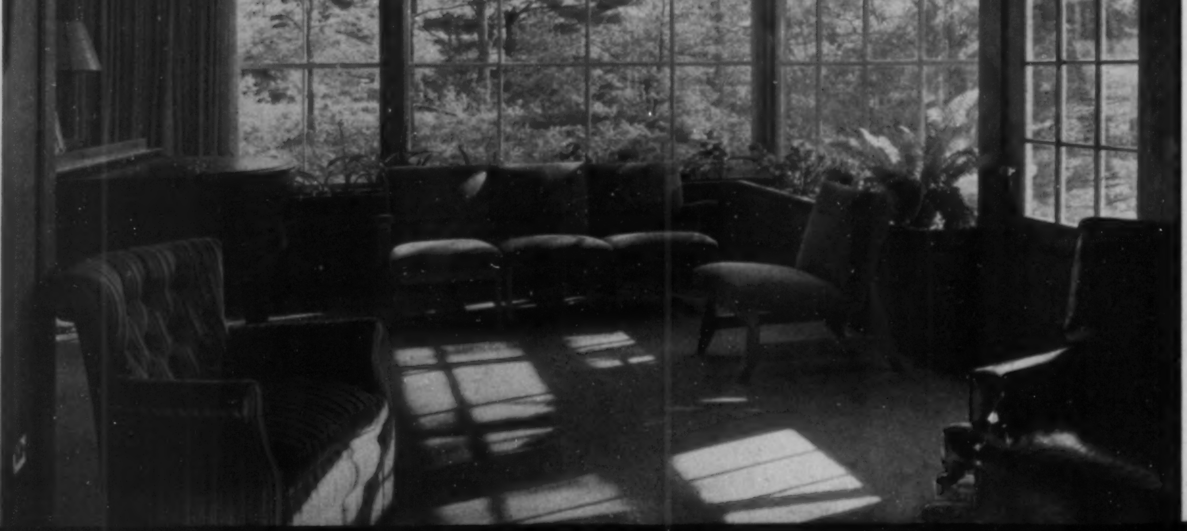
Architect

THE flash-back inset above (p. 96 of ARCHITECTURAL RECORD for May, 1945) recalls the Parker house as nascently published three years ago in a study looking forward to The Post War Small House. More than just a project, it represented Miss Raymond's clincher in an argument favoring two-story design, of a relatively conservative character, in keeping with New England climate, conscience and requisites of thrift. The process of realization required adaptation of the project to an entirely different plot. In final form, then, the garage wing has been swung at an angle to give direct approach from the street, and permit proper sun and view orientation for the rest of the house. Changes otherwise were fairly incidental.

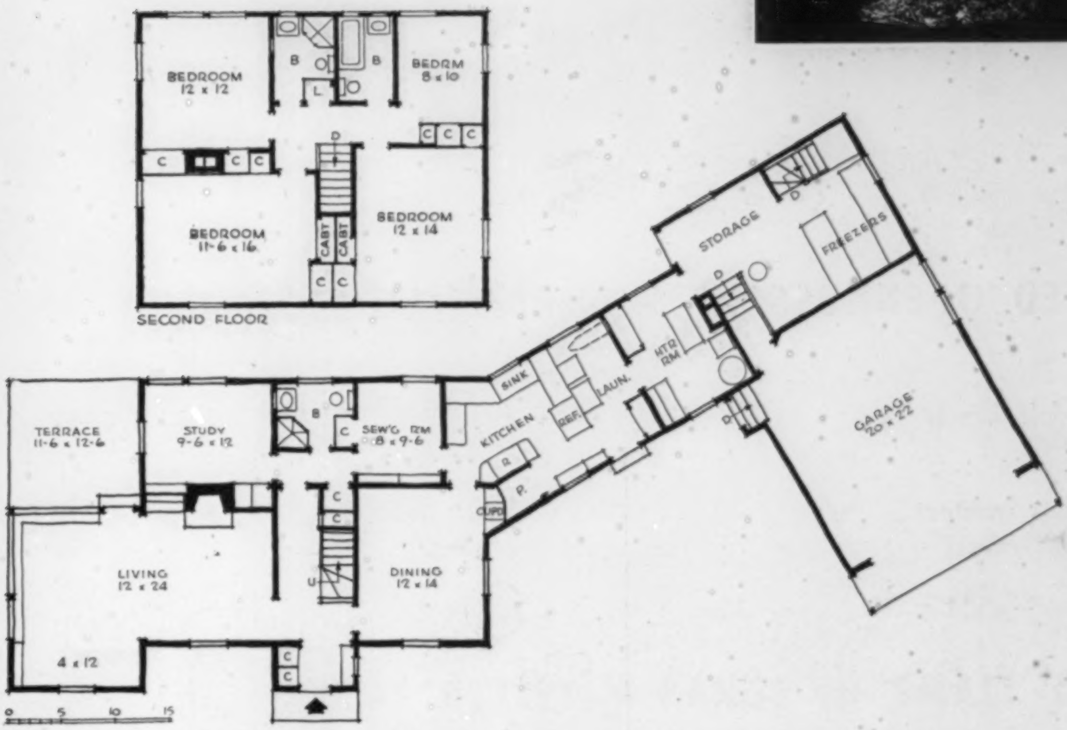


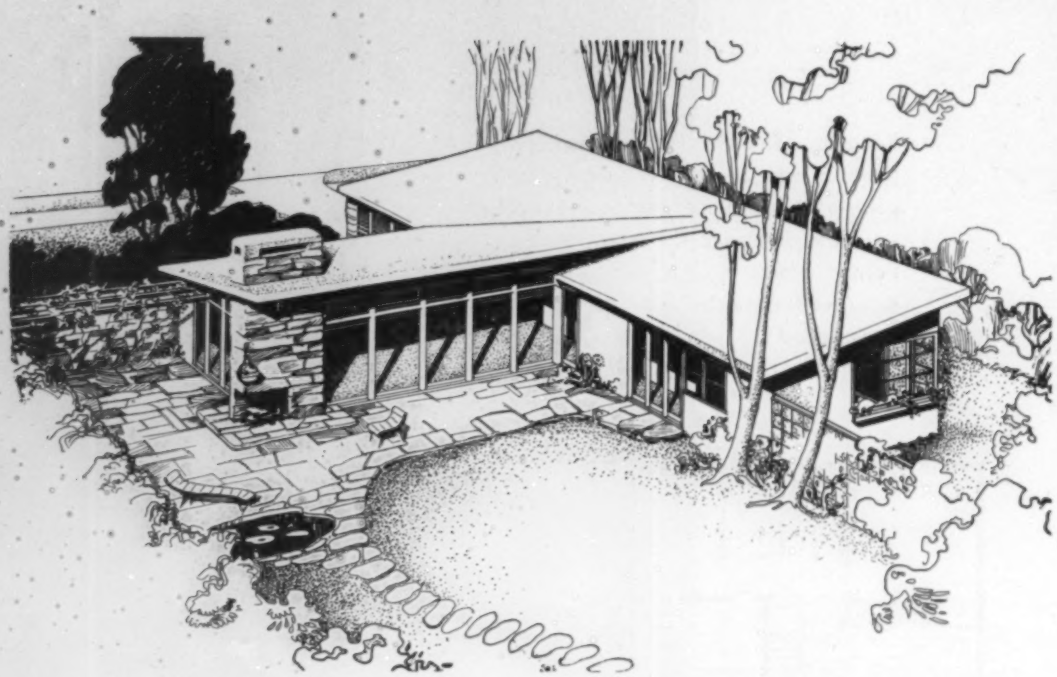
Essential characteristics of New England are maintained with full use of modern materials and equipment. Both outside and interior finish walls are entirely of plywood, as are roof, wall and floor boarding. Living room (two bottom photos), dining room and main hall are finished in mahogany; study, prima vera; walls elsewhere are finished in fir. Heating is radiant with copper ceiling pipes. Garage has floor pipes under car engines, and directly outside the doors for melting snow

Haskell Photos



Variations between original and final plans include: sheltered main entry, with convenient bench for overshoe removal; expanded kitchen and laundry facilities; interior access to the garage, where extensive storage and freezer space have been added

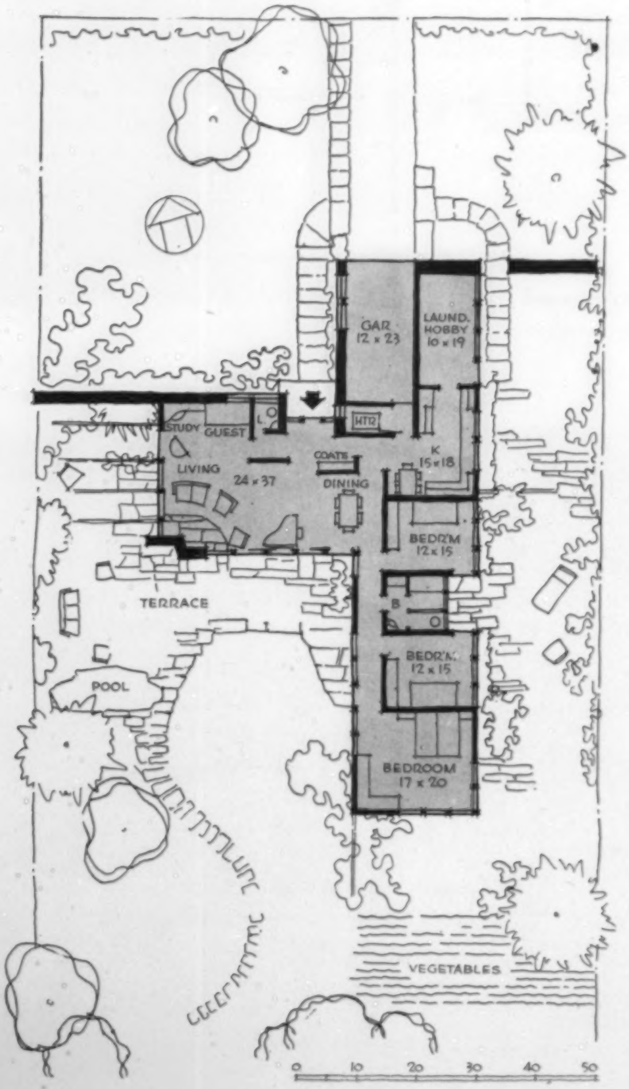

BEDROOM 12 x 12
B
B
BEDRM 8 x 10
L
D
C
C C
C C C
BEDROOM 11-6 x 16
CAB'T
CAB'T
BEDROOM 12 x 14
C C
SECOND FLOOR
STORAGE
FREEZERS
D
SINK
HTR RM
LAUN.
REF.
KITCHEN
GARAGE 20 x 22
TERRACE 11-6 x 12-6
STUDY 9-6 x 12
B
C
SEW'G RM 8 x 9-6
R
P.
CUPD
C
C
LIVING 12 x 24
U
DINING 12 x 14
4 x 12
C
C
0 5 10 15



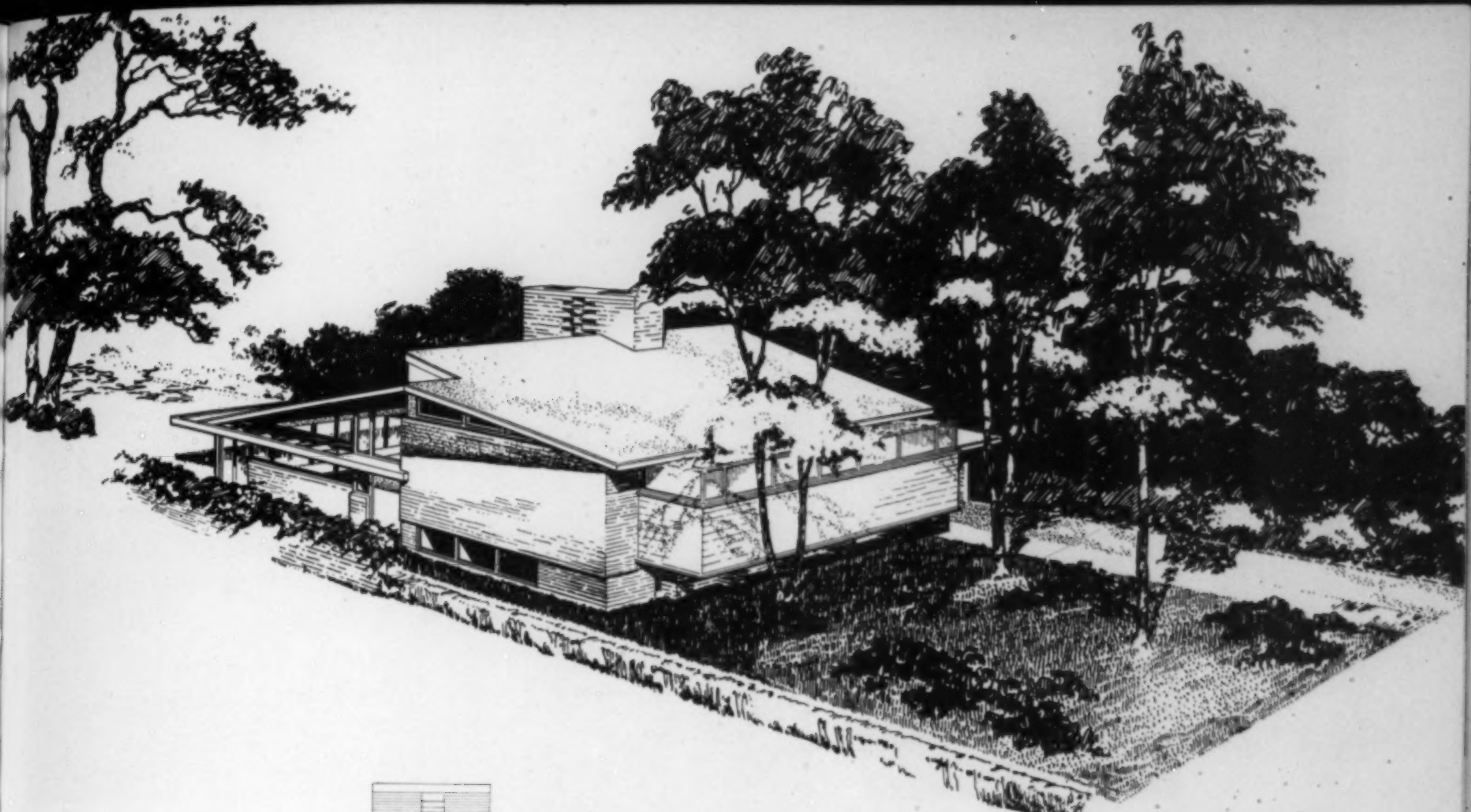
PROTECTED OPENNESS IN SUBURBAN LOCATION

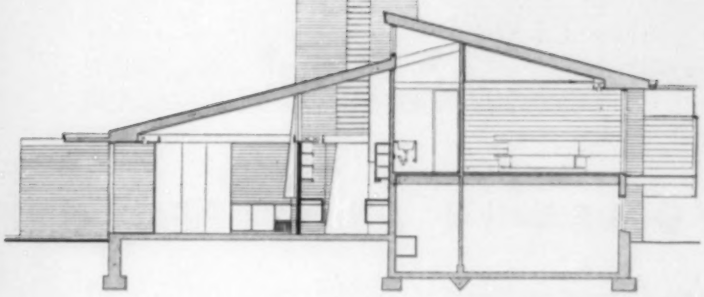
House for Hinsdale, Illinois

Harry J. Harman, Architect


GAR 12 x 23
LAUND. HOBBY 10 x 19
HTR
STUDY
GUEST
L
COATS
K 15 x 18
LIVING
24 x 37
DINING
BEDR'M 12 x 15
B
BEDR'M 12 x 15
BEDROOM 17 x 20
TERRACE
POOL
VEGETABLES
0 10 20 30 40 50

Responding to the unanimous petition of the Thorne family (Mr., Mrs., son, and daughter) for the utmost in secluded openness on a fairly confining suburban plot, the architect provides a main terrace for general activity, double flanked by the house for protection and readiness of access through sliding glass doors. A feature particularly favored by the clients is the barbecue fireplace built into the main chimney. In addition, a second terrace, convenient to all bedrooms, provides for more seclusive individual purposes. Features inside include two accordion doors, one to partition the dining area, another for converting the large living room alcove into study or guest room. The plan was based on a 4-ft. module, insuring full economy in the use of plywood and plastic sheets.

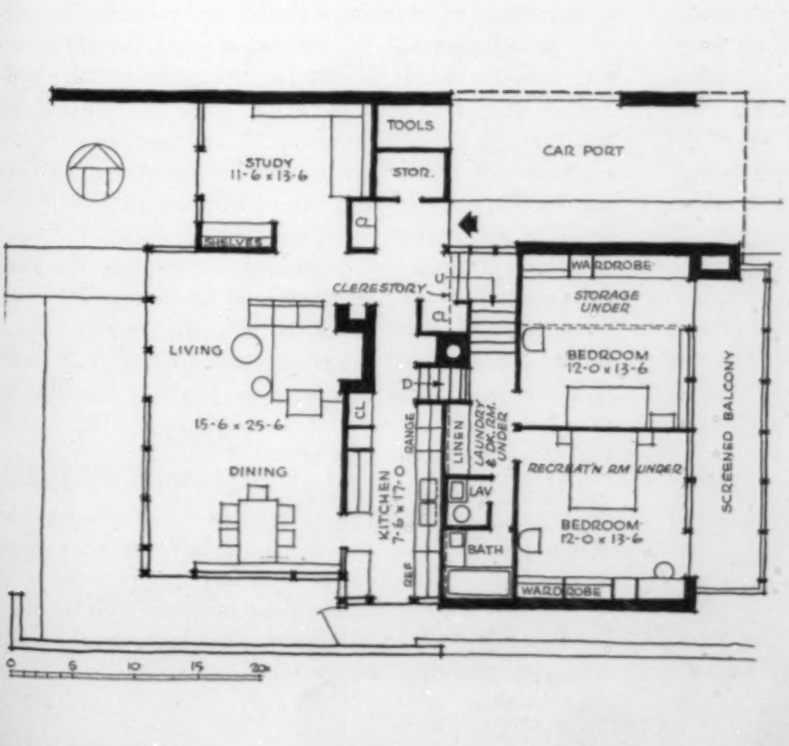




House for River Forest, Illinois

Joseph Salerno, Architect

LARGE ACTIVITY RANGE IN SMALL COMPASS


TOOLS
CAR PORT
STUDY
11-6 x 13-6
STOR.
SHELVES
CL
CLERESTORY
WARDROBE
STORAGE UNDER
LIVING
BEDROOM
12-0 x 13-6
D
CL
15-6 x 25-6
RANGE
LINEN
LAUNDRY & DK. RM. UNDER
SCREENED BALCONY
RECREAT'N RM UNDER
DINING
KITCHEN
7-6 x 17-0
LAV
BEDROOM
12-0 x 13-6
BATH
REF
WARDROBE
0
5
10
15
20

PRECISE calculation provides here for a relative multitude of living, working and hobby pursuits within extremely compact limits. The owner-to-be is an engineer, thus the study for occupational purposes; it may also serve for guest usage. Photographic and carpenter avocations, as well as ping-pong, laundering and storage, are accommodated on the sub level, to which light and air are plentifully admitted by raising the bedroom floor and cantilevering the glass-roofed and windowed balcony. This elevation also permits interior light flooding and cross ventilation through the clerestory.

A THOUSAND WOMEN IN ARCHITECTURE

Presenting a few more pages of the survey of women architects and their work, as proof, if any were needed, that architecture is a field where women's talents are being accepted and appreciated

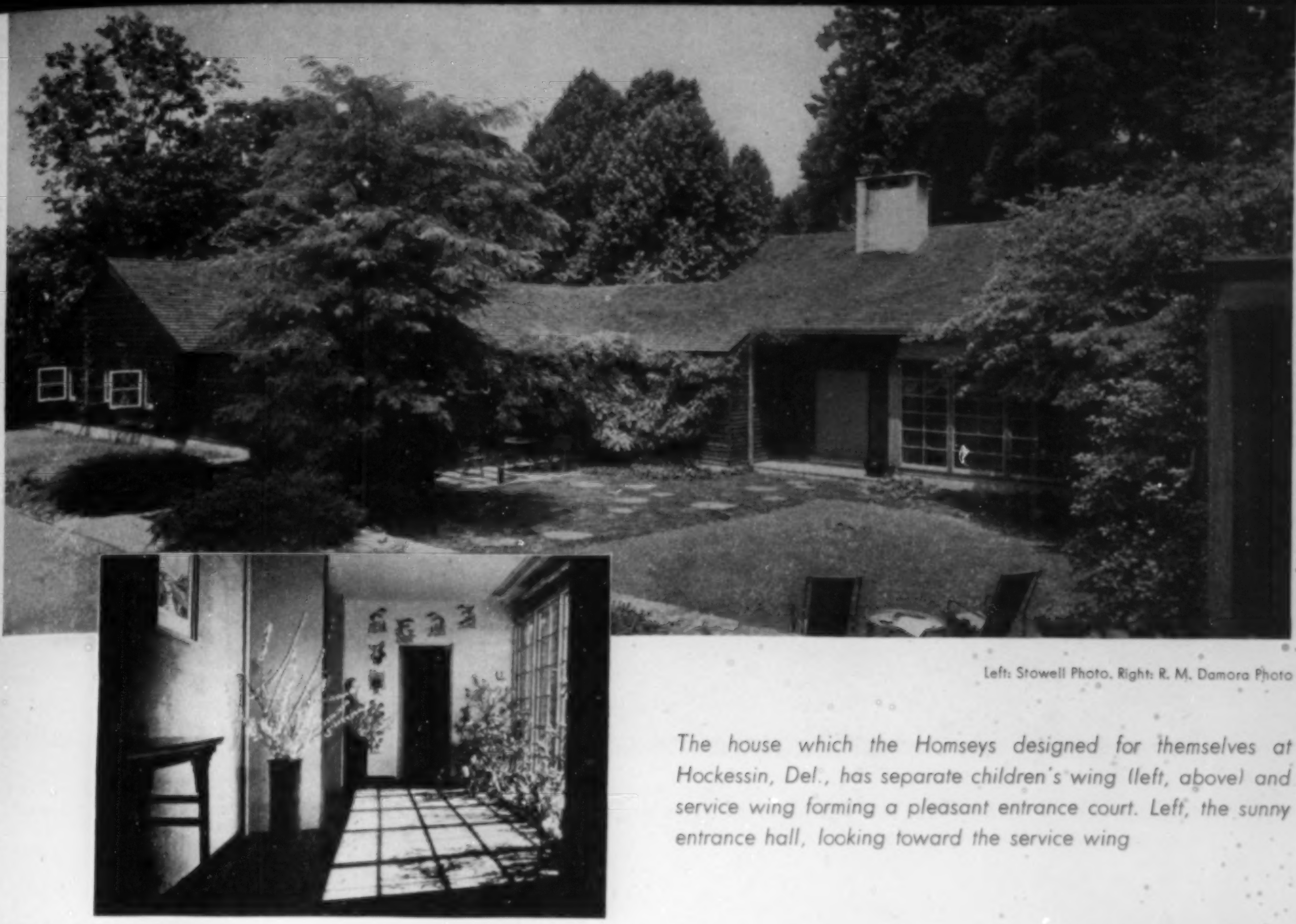
PART II

EVERY male architect at some time in his career (and probably many times) has had his dinner partner exclaim, "So you are an architect; oh, if I'd been a man, I'm sure I'd have been an architect too. I just love houses and plans and things." Of course, if she'd really had the urge she could have been. An architect, we mean. For architectural schools have been open to women students for years. Even Harvard has seen the error of its strictly masculine ways and now competes with its Cambridge compeer, M.I.T., in the number of distaff designers on its roster.

But all has not been easy for the rising young woman in architecture. Time was, and place too, when "the chief" looked askance at the hopeful draftsman in skirts, and hesitated to inject a feminine note in the earthy esprit-de-corps of the drafting-room. By sheer ability, coupled with innate tact and diplomacy, however, women have found places in, and up through, many offices throughout the country. And after apprenticeships, both arduous and amusing at times, many have branched out on their own and have established successful offices under their own names or in partnerships. Some husband-and-wife partnerships have been particularly successful, and have done outstanding work.

While the survey and the photographs received from women architects show a preponderance of domestic architecture, their creative ability and technical knowledge have been employed on almost every type of structure imaginable. It is natural that residential architecture should be their particular forte as traditionally and through long experience they are familiar with the problems of creating a better environment for the family. They understand the meaning of step-saving in planning and flexibility for multi-use of space. They are conscious of maintenance and operating problems from the standpoints of both time and economy. Their interest lies thus both in logical planning and in careful detailing and selective specification writing. For some reason or other they also seem particularly sensitive to the aspects of color, texture, and form in creating homes that have distinctive character.

The same thoughtful analysis and intuitive sense of the appropriate runs through their contributions to the designing of schools, churches, hospitals and every other type of building. As time goes on and they increase both in numbers and experience, their influence will be more strongly felt in the creation of an architecture that is not only utilitarian but soul-satisfying as well.



Left: Stowell Photo. Right: R. M. Damora Photo

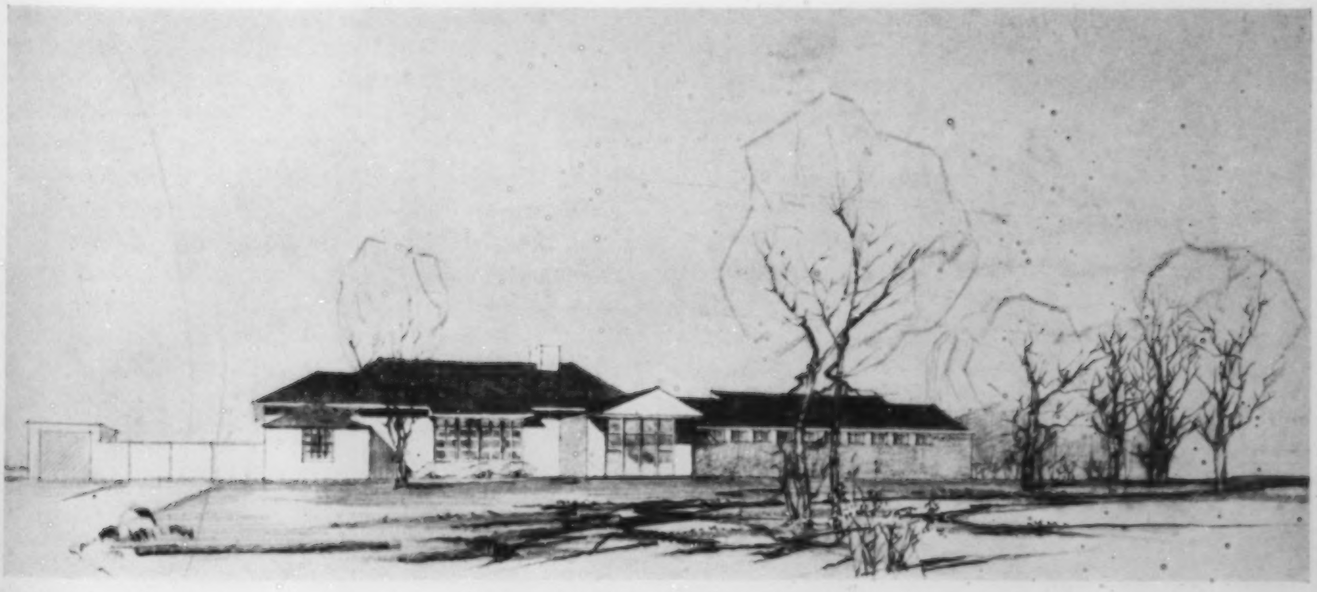
The house which the Homseys designed for themselves at Hockessin, Del., has separate children's wing (left, above) and service wing forming a pleasant entrance court. Left, the sunny entrance hall, looking toward the service wing

VICTORINE HOMSEY
A.I.A.

WILMINGTON, DELAWARE

"When I stop having fun," says Victorine Homsey, "I'll stop practicing architecture." A graduate of Smith College Graduate School of Architecture, Mrs. Homsey started her career as a draftsman in the office of Allen & Collens, Boston, Mass. She and her husband, Samuel Homsey, now are one of the best-known husband-and-wife architectural teams in the country. Practicing as Victorine & Samuel Homsey, they specialize in domestic architecture, schools and theaters. During the war Mrs. Homsey did temporary war housing for the FPHA, and schools at Greenbelt, Md. She is registered in Delaware and the District of Columbia, and is a member of the American Society of Planners and Architects.

Seaford Golf Club, Martin Farms, Seaford, Del., features a lounge the full depth of the building. Victorine & Samuel Homsey, Architects



Walter Wilcox Photos

The residence of Judge and Mrs. J. Edgar Murdock has a beautiful setting among native sycamores, elms, and boxwood

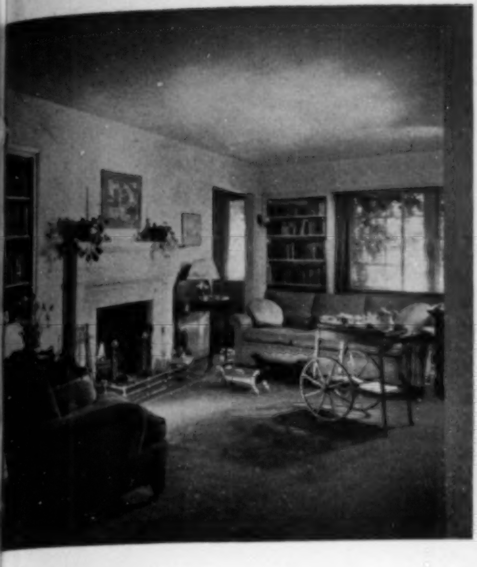
GERTRUDE SAWYER
A.I.A.

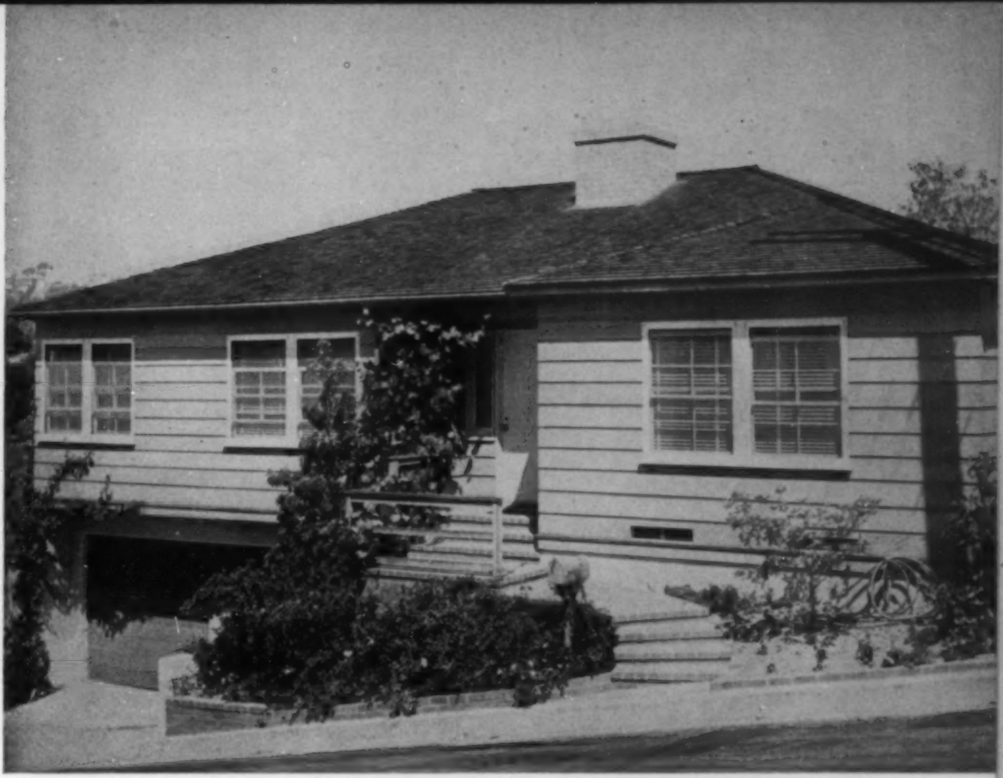
WASHINGTON, D. C.

Most architects are content with registration in one state, but Miss Sawyer is registered in the District of Columbia, Maryland, Pennsylvania, Ohio, and Florida. She has her own office in Washington, D. C. It is natural that she should specialize in residential architecture and country estates for she is a graduate in landscape architecture from the University of Illinois, and holds a Master's degree in architecture from the Cambridge School of Architecture and Landscape Architecture. During the war her talents were engaged in the engineering department of Fairchild Aircraft Corporation, and she was a lieutenant in the U. S. Navy Civil Engineer Corps Reserve. She is a member of the American Institute of Architects.

Left below, the residence of Mr. and Mrs. Jefferson Patterson at Peterson's Point, Maryland, above the Patuxent River, is of handmade rose-colored brick. The owners' French furniture determined the style of the residence for Mr. and Mrs. Nathan Scott II (below, right).

Horydczak Photos





Maynard Parker Photo

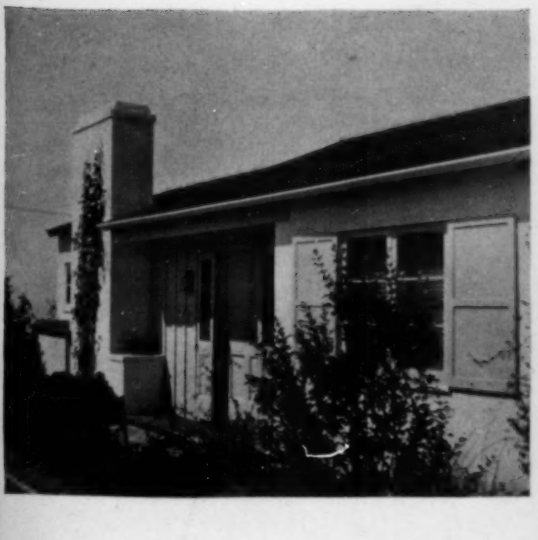
Living room (left) and entrance side (right) of residence for Miss Gladys Caldwell, Hollywood, Calif. Lot is irregular, slopes steeply

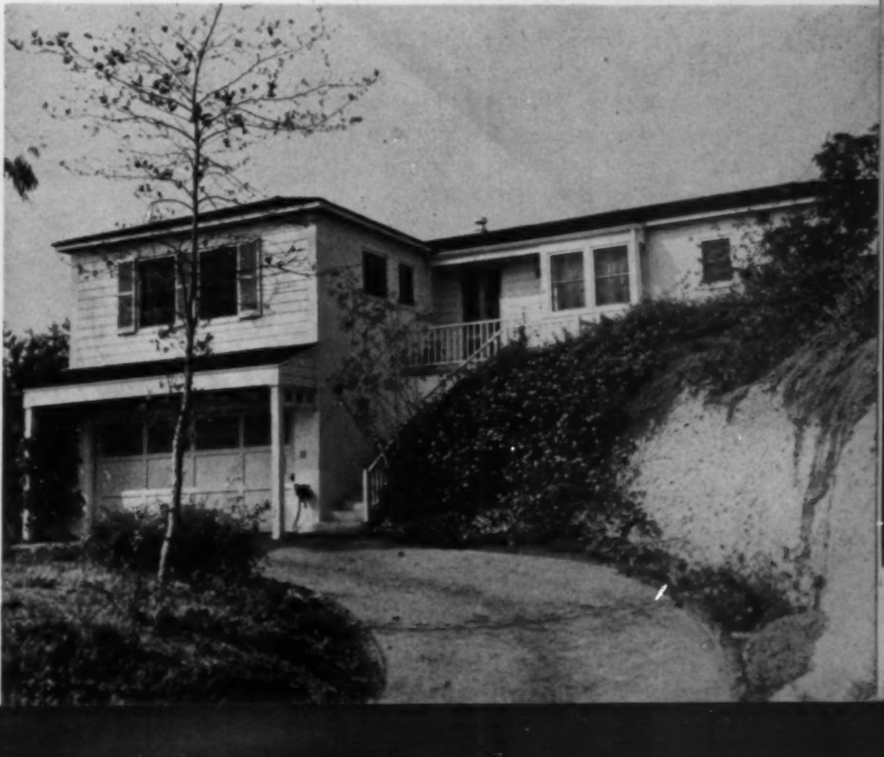
ROSE CONNOR
A.I.A.

PASADENA, CALIFORNIA

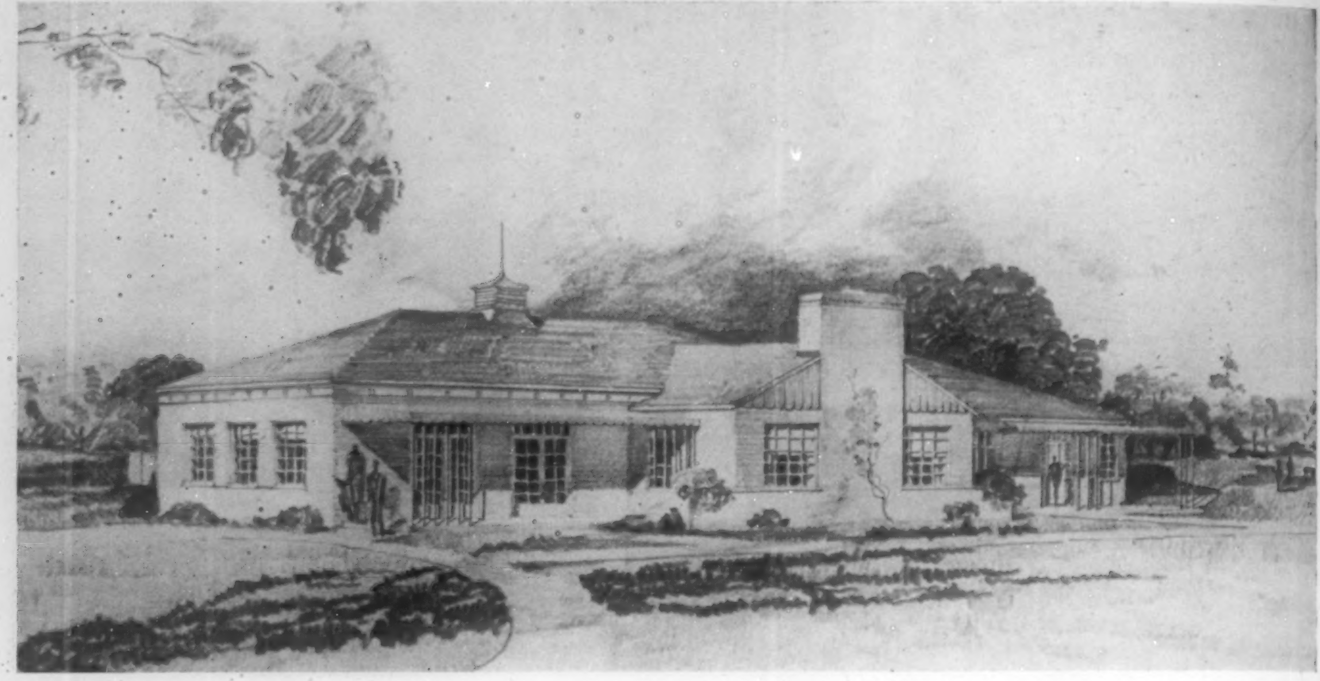
Rose Connor received her architectural education at the Pasadena Atelier, Beaux Arts Institute of Design, studied art at Colarossi's in Paris, and interior decoration at the New York School of Fine and Applied Arts. She first put her training to use as a draftsman in the office of Soule and Murphy, Architects, Santa Barbara, Calif. During the war she spent three and a half years designing camouflage and doing other work for the U. S. Engineers. A member of the A.I.A., Miss Connor is registered in California, has her own office, specializing in residential work. She says: "Most owners and contractors like to work with women architects, once the ice has been broken, for they find we are very practical. . . ."

Below: left, beach house for Mrs. F. L. Ransome, Three Arch Bay, Calif., has oyster white stucco and brick exterior, soft corn yellow wood shutters and entrance, eucalyptus green sash; right, main entrance of residence for Miss Margaret Hickman, Eagle Rock, Calif.





Joseph C. Maschi Rendering



Mrs. Wiatt and her husband, J. Streeter Wiatt, collaborated on the plan of Woodley Country Club, Montgomery, Ala., but Mrs. Wiatt did the exterior design. The lounge and dining room overlook the golf course from a hilltop; locker rooms and pro shop are at the rear

TENNIE OWEN WIATT

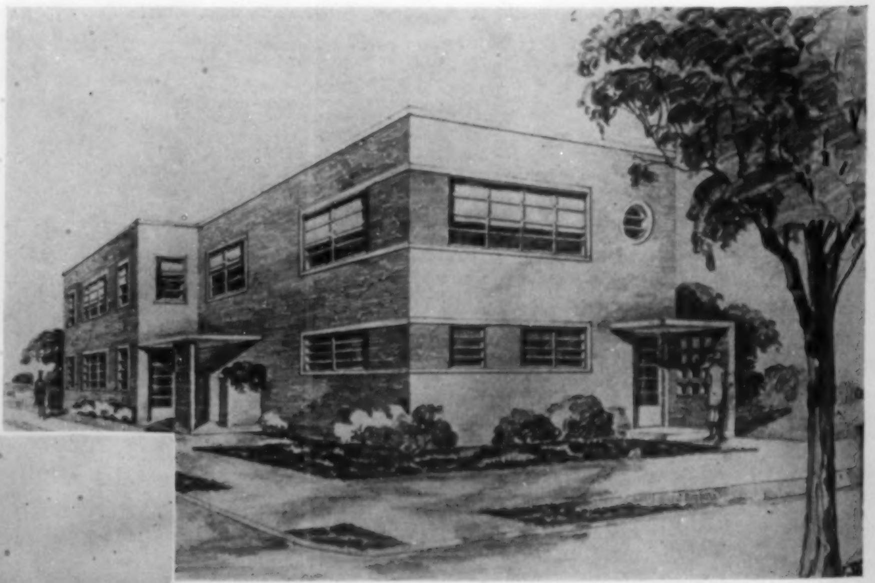
R.A.

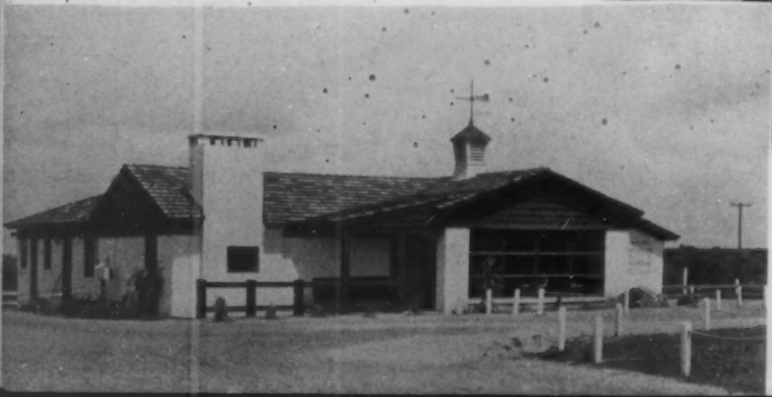
MONTGOMERY, ALABAMA

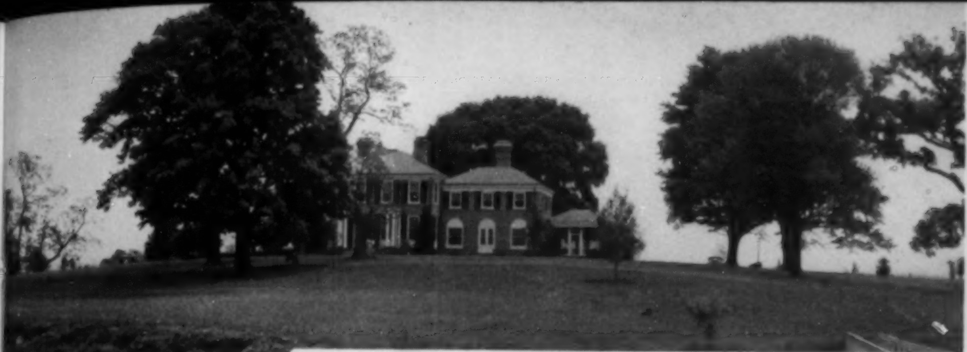
Tennie Owen Wiatt is a graduate of Alabama Polytechnic Institute, where she won the A.I.A. award for excellence in scholarship. Starting out as a draftsman in the office of G. Howard Ryan, McComb, Miss., she had much varied architectural experience in Mississippi, Louisiana and Alabama before settling down permanently in Montgomery with her architect husband, J. Streeter Wiatt. She is now affiliated with the firm of Sizemore & Campbell in Montgomery, doing residential design and all phases of drafting, but expects shortly to join her husband when he opens his own office. Registered in Alabama, she believes a woman's greatest opportunity in architecture lies in the residential field.

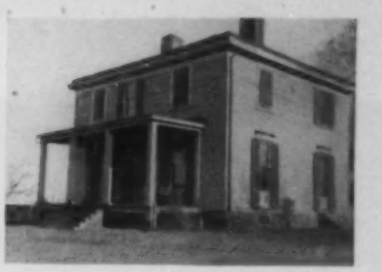
The Wiatts collaborated in the design of the small office building at right, where their own office will be located. Below, "The Ranch," a highway restaurant designed by Mrs. Wiatt around a plan developed by the owner. Chimney window permits public to watch a pig being barbequed on a revolving spit

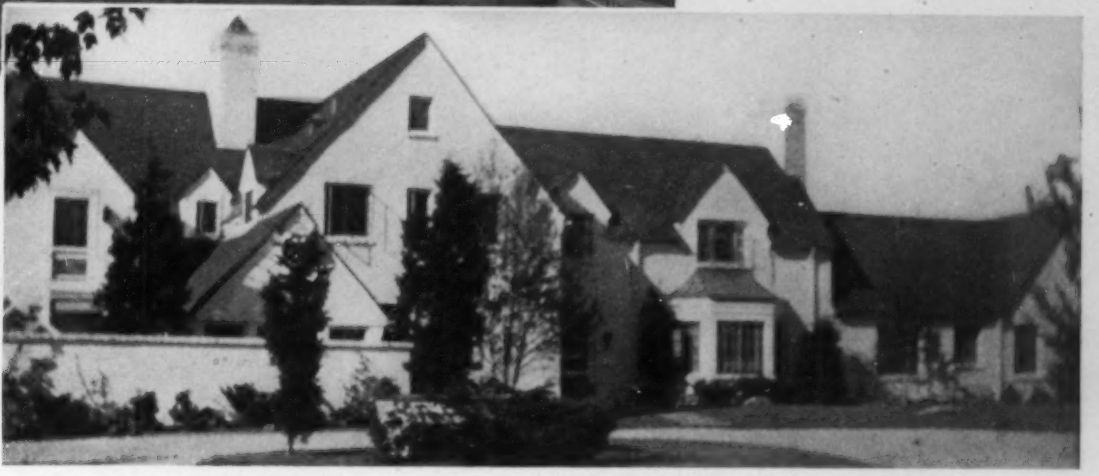
Collier, Pierce & Kraus Photo; Joseph C. Maschi Rendering











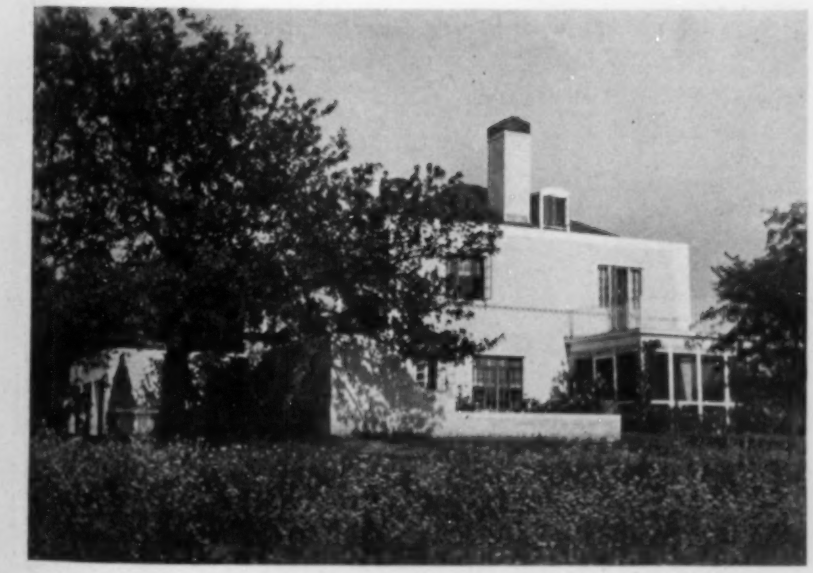
The Maryland estate at top of page was just a square house (right) before remodeling. Immediately above: a walled garden, upstairs game room, service court and stables are features of this Bedford Village, N. Y., estate, now owned and occupied by Tallulah Bankhead

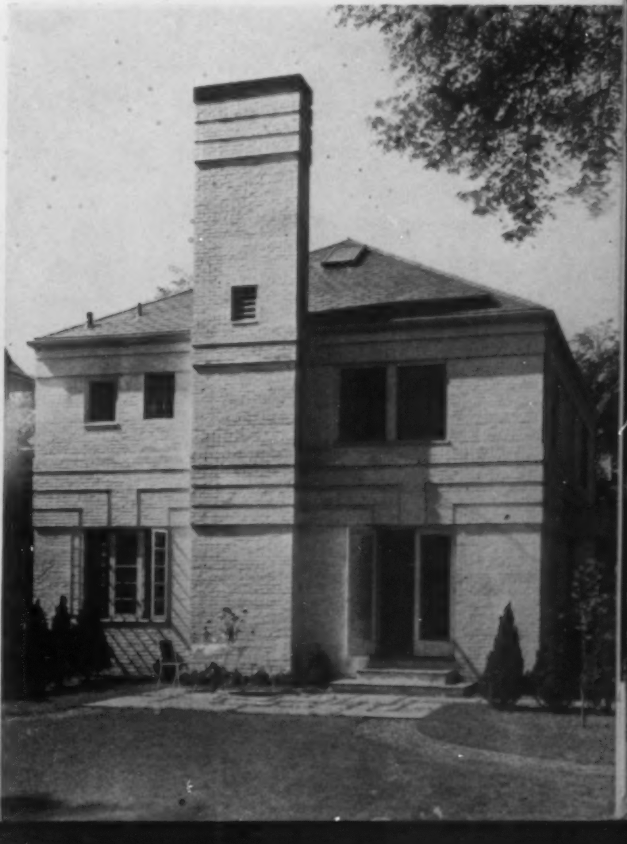
CARINA EAGLESFIELD MILLIGAN

A.I.A.

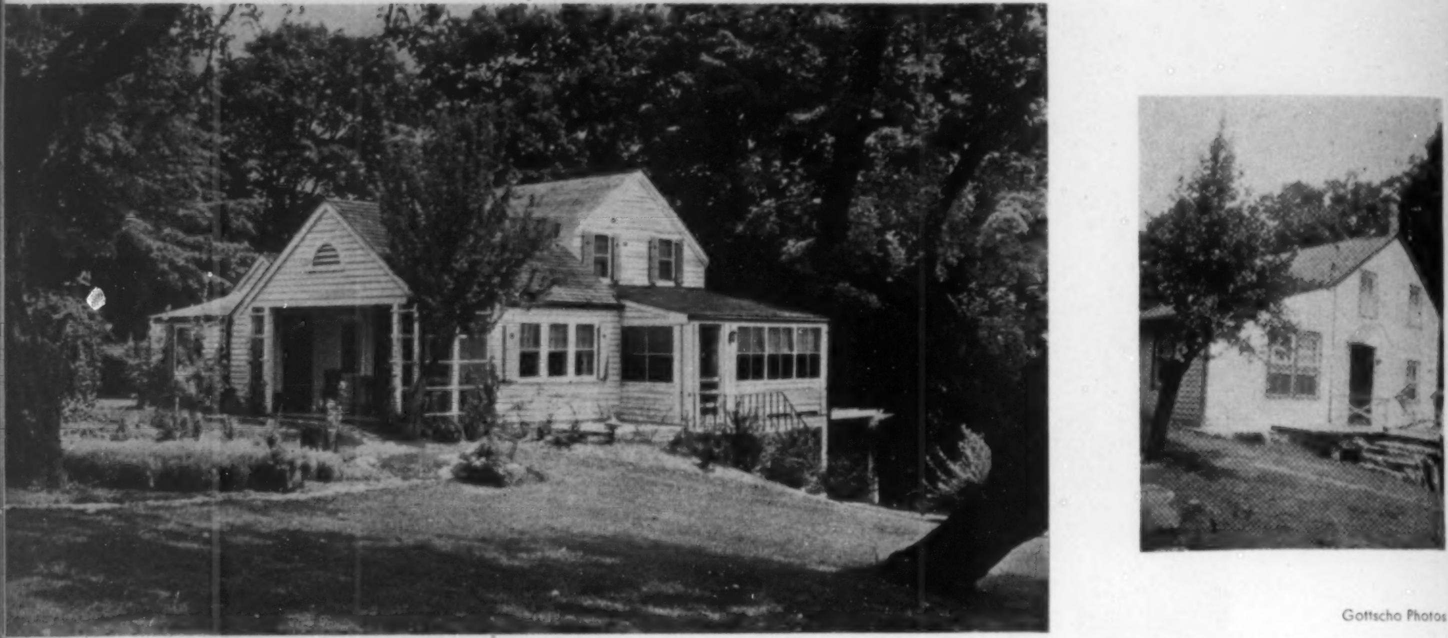
NEW CANAAN, CONNECTICUT

Unlike most young architects, Carina Eaglesfield Milligan went into private practice immediately after her graduation from the Cambridge School of Architecture (later taken over by Harvard). Her career had actually started, however, while she was still a student: she was paid $35 for a drawing of a house which not only was built but, she says, is "still good." She has since won a dozen competition prizes for her house designs. A member of the A.I.A., she holds a National Council Certificate and is registered in New York, New Jersey, Connecticut and Virginia. In addition to maintaining her own office in New Canaan, Conn., she is an associate of Louis E. Jallade and L. E. Jallade, Jr., New York.





The home of Prof. and Mrs. R. F. Flint in New Haven (right) brought Mrs. Milligan another commission—from Van Wyck Brooks, for whom she did the formal Regency above, with a walled garden where he could write in quiet



Gottscho Photos

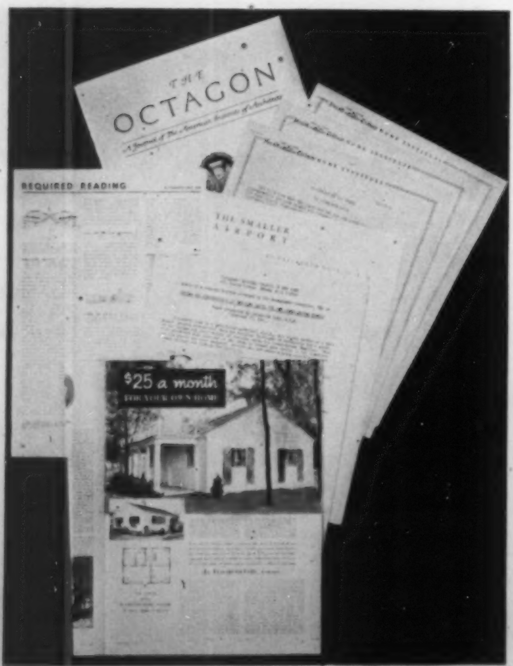
"After and before" photographs show the transformation wrought by Miss Coit in an old, nondescript farmhouse

ELIZABETH COIT

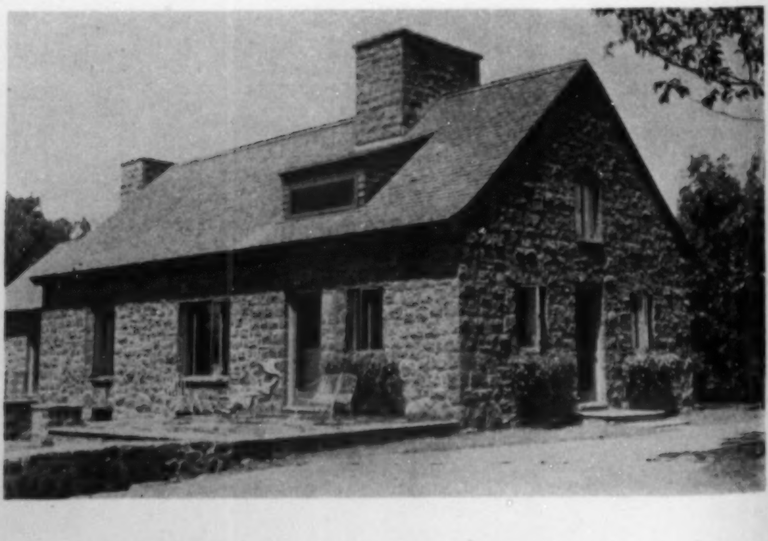
A.I.A.

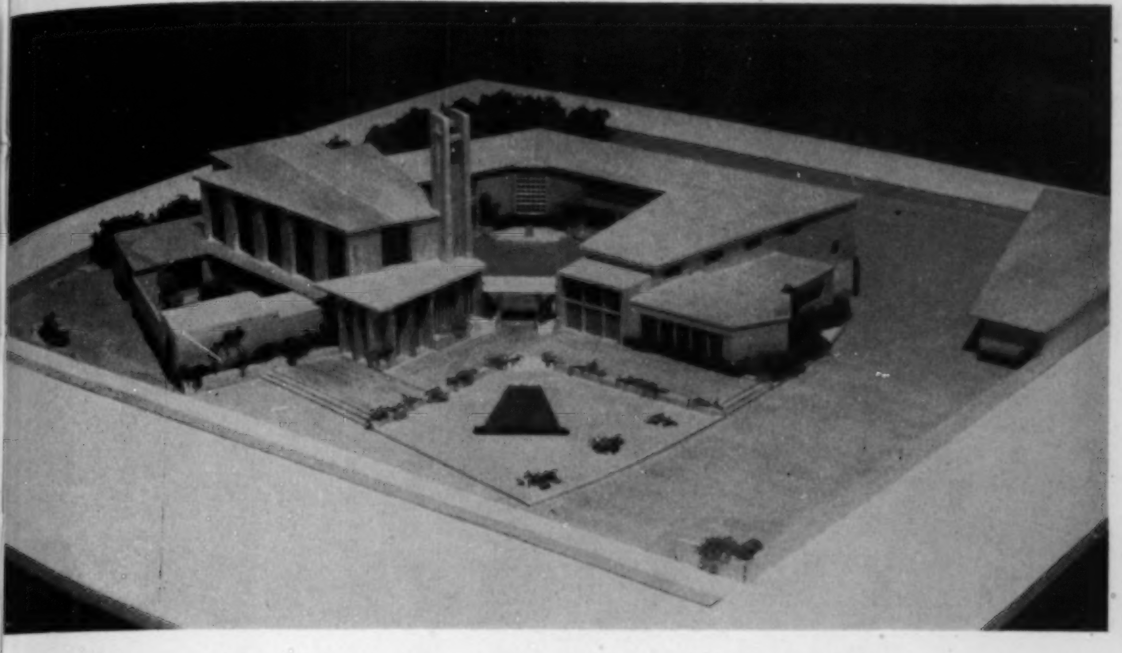
NEW YORK, N. Y.

Housing has long been the subject of Miss Coit's critical analysis and constructive research. In 1938–1940, she held the Langley Fellowship of the A.I.A., and her findings were reported in "Housing from the Tenant's Viewpoint." She has worked with the Technical Division of the Federal Public Housing Authority, and is now assisting the New York City Housing Authority in research and editorial work as well as being associated with the firm of Mayer and Whittlesey, New York. She is a graduate of M.I.T. holding the degree of B.S., Arch., and is registered in New York, Virginia, and New Jersey, also holding a National Council certificate. She was book reviewer for the ARCHITECTURAL RECORD for several years.



Left, random pages from the pen of Miss Coit, architectural author. Below, the sturdy stone work and Virginia craftsmanship of the Winslow Sommaripa house, Boyce, Va., accent an unusual plan arrangement





Jack Coverly photo

Model of a church for a small town. Office of Walter R. Hagedohm, A.I.A., Architect (Irene McFaul, designer)

IRENE McFAUL, A.I.A.

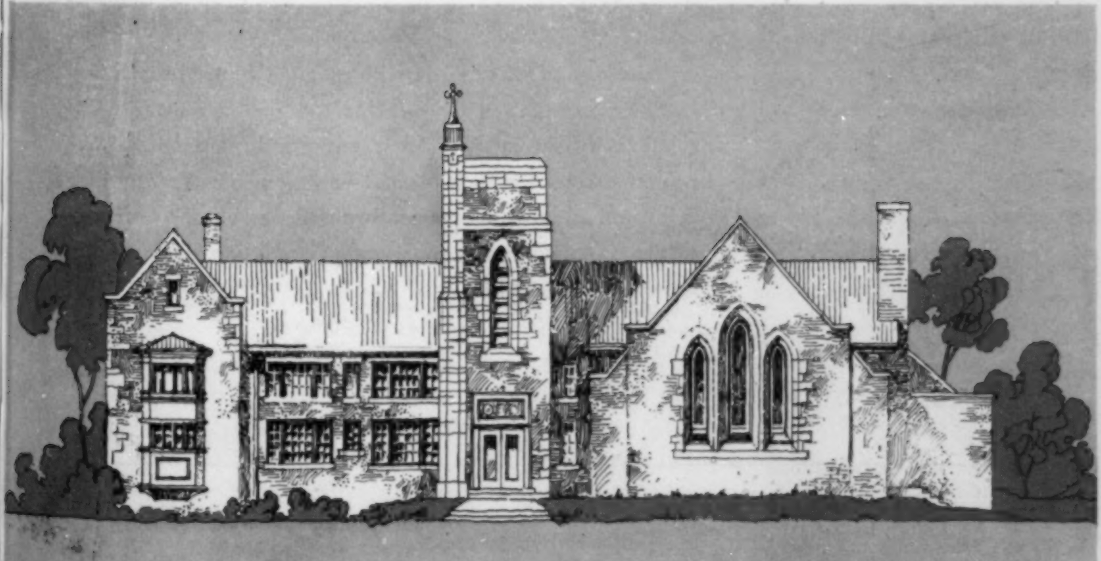
LOS ANGELES, CALIFORNIA

Emerging from the University of California at Berkeley with her M.A. and membership in Delta Epsilon, Miss McFaul started in an electrical contractor's office "reading blueprints." After serving as draftsman in San Francisco and conducting her own residential practice in California, she is now a chief draftsman with Walter R. Hagedohm in Los Angeles, doing mostly churches, residences, and public buildings.

EMILY H. BUTTERFIELD, A.I.A.

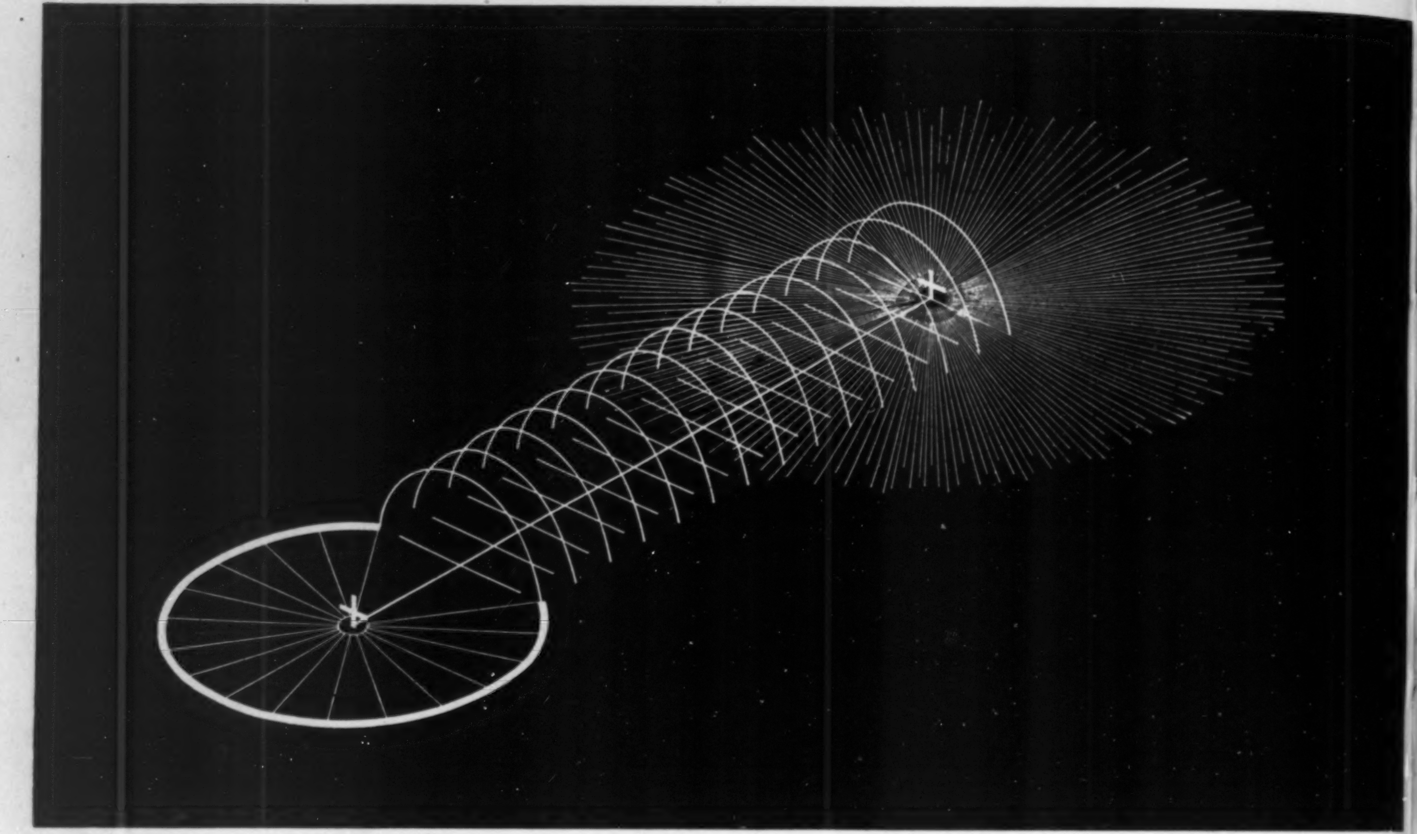
ALGONAC, MICHIGAN

Miss Butterfield received her architectural training at Syracuse University when there were but few women in the profession. For a number of years she was partner in the firm of Butterfield and Butterfield, practicing in Detroit and Pontiac, Michigan, designing schools, churches, and residences. She has written much, including "Young People's History of Architecture," and she still finds time for her hobby, water-colors.



A preliminary sketch for Christ Community Church, Methodist, Inkster, Mich. (suburban Detroit); Emily H. Butterfield, Architect

RELIGIOUS BUILDINGS



"Church of All Ages"—culminating plan of Rudolf Schwarz (See Article on opposite page)

In the present study we find a collection of opposites. The review of the seven archetypes of Rudolf Schwarz is concerned entirely with church forms in their most basic significance. The notes on the church community center, on the other hand, pick up those practical necessities which are often slurred in religious literature.

A richly illustrated article by Emil Frei, showing current processes and design in stained glass, lays stress on a continuation of historical development from past to future. By contrast, a new church with no windows at all, by Joseph H. Saunders, Jr., displays new means for an enriched liturgy and worship supplied by the present-day arts of illumination and air conditioning.

The sunny courts of the Jewish religious center project for Northwestern University, by Harrison and Abramovitz, is religious, again, in a different mode and temper; and the Baptist project for Flint, Mich., involving studies first by the Saarinens and then by Robert Swanson, exhibits the problem of the complete church plant under conflicting demands of economy and of taste.

ARCHITECTURAL RECORD'S BUILDING TYPES STUDY NUMBER 138

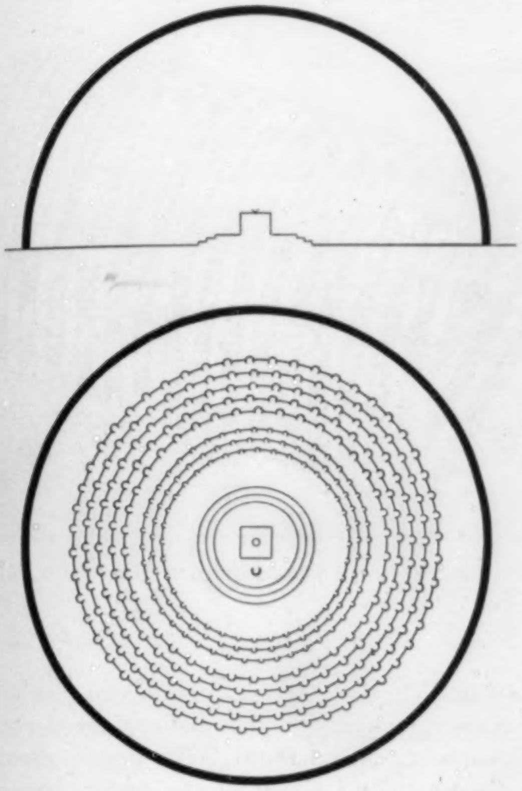
THE "SEVEN ARCHETYPES" OF RUDOLF SCHWARZ

The drawings on this and succeeding pages are not to be construed as "projects" but as images of ideas; and a little study will reveal the depth of their content. Cutting across current shallow clichés, they are taken from a little known volume by Rudolf Schwarz, published in German and entitled *Vom Bau der Kirche* ("On the Building of the Church"). The volume itself has a German cast, metaphysical and allegorical, but the language of the drawings is clear and universal.

Little known outside his native country, Schwarz has built very few churches, none since Hitler's accession in 1934; yet there are those who do not hesitate to assign him the very highest rank among living architects of churches. A devout Catholic, Schwarz thinks of the church as being simultaneously an *instrument* of worship, a symbolic *representation* of the deepest relationships, and a sacred *participation* in "creating the mystical body of the Lord."

The seven archetypes, or groups, into which he divides church plans, represent not only a historical development but a religious progression.

The first, "childhood" plan (1), puts the altar at the center ("the rising earth"); on it the chalice and platter (the chalice the "innermost container"); the candle ("living light radiating from the center"); space ("a



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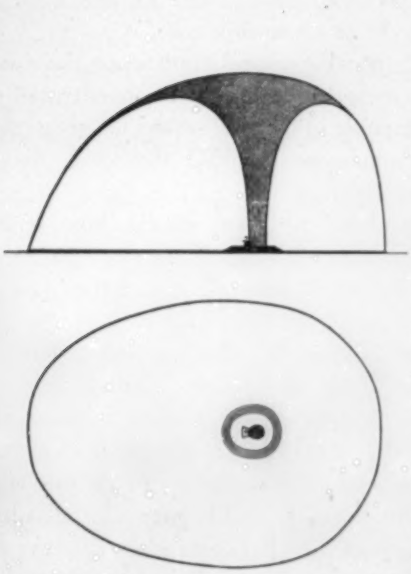

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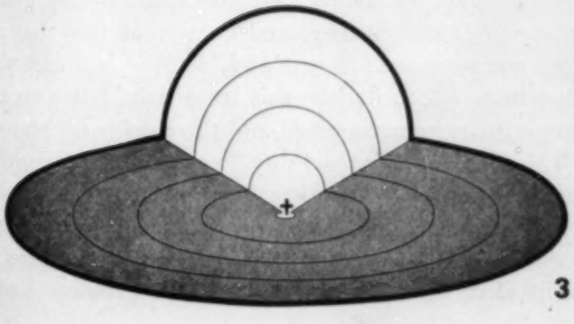

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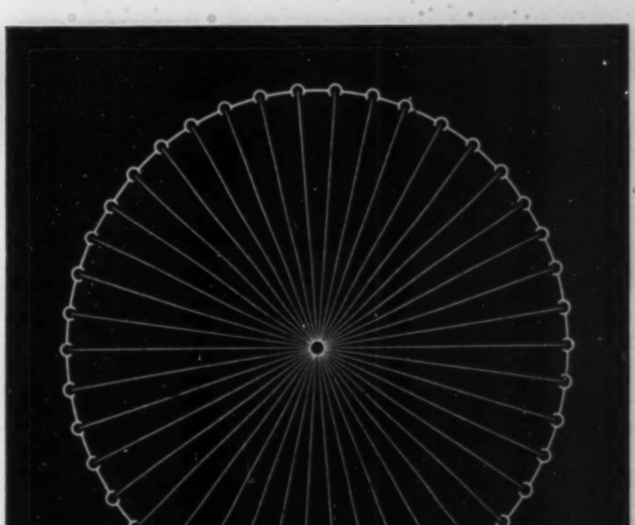
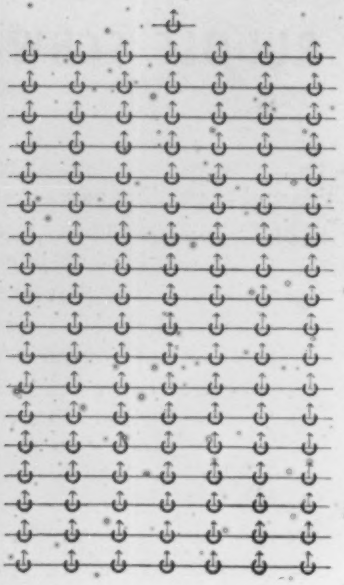
First basic element: ''dark star,'' wheel, or rose 4





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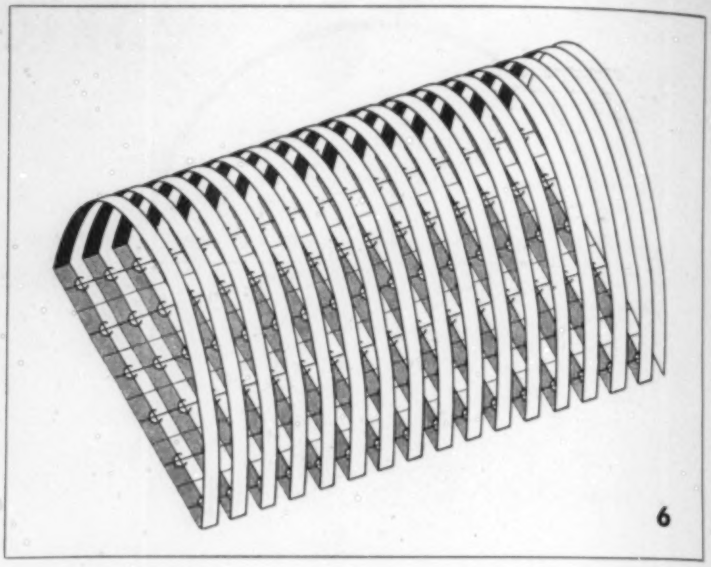

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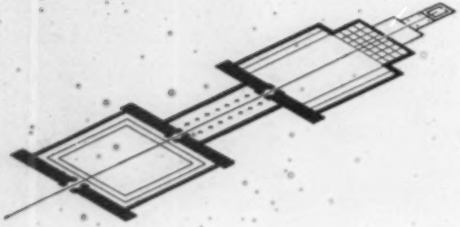
Second basic element: light and darkness along "the Way"



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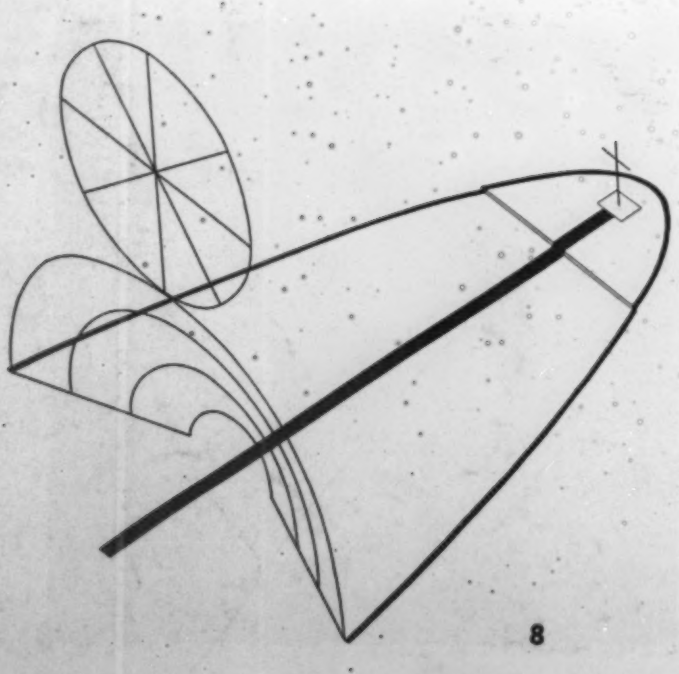

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sacred fullness"); the congregation in circles ("strongest form of the community"); walls and roof are the outermost container, a "firmament." The people, directing their glances toward Christ at the center, become a "dark star of beseechment and prayer" (4), answered by a "radiant star of light." Or, transforming the image, the plan becomes "the image of the Lord and His mystical body as a wheel or rose."

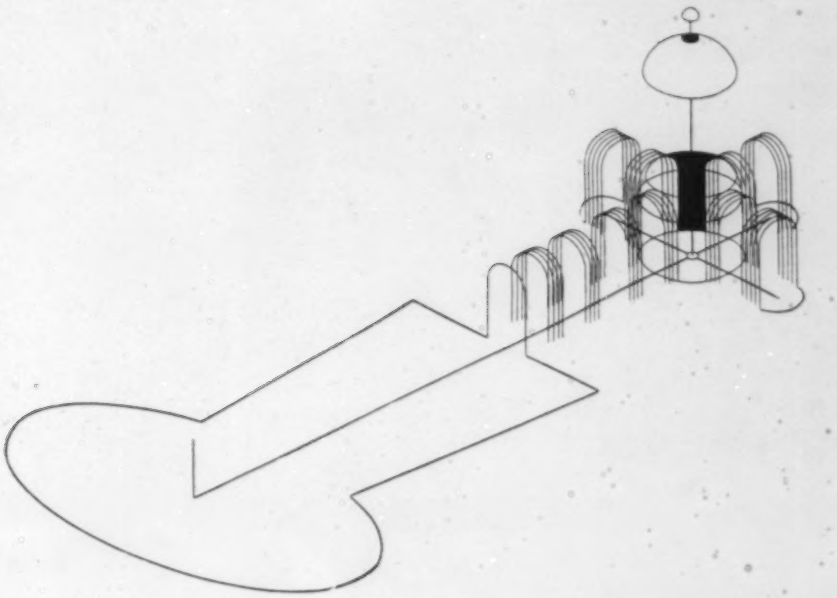
Figure 2 (previous page) transforms the dome into a fountain, strengthened by light concentrated upon the altar but capable of being reversed for greatest strength at the circumference so that the space may be "re-created" by light.

Into this closed germinal scheme, however, there intrudes a "sacred cleft" (fig. 3, previous page) — awareness that the world is insufficient, struck to its core by "heaven, the coming kingdom."

How to represent this coming realm, which no "man has seen," without fatal error and distortion, is a problem beyond solution, but one, says Schwarz, that must be met as best possible. His discussion explores devices such as vanishing perspectives, or an intruding white wall ("white, the color that negates all individual colors, yet unites them all"), or clear glass opening on emptiness, or pictures of saints, or light from above ("the open chalice"). The broken ring and the open chalice are his second and third plan types.

Once the ring is broken, there follows the "sacred pilgrimage — for awakened men who stand in Time and are sent out into history, and know that they have a home and yet must follow a 'path' " (5) — and a church must be found to declare this transition "between the day of the germinating seed and the coming kingdom."

This idea of the "sacred way," prefigured in Egyptian pagan temples (7) with their sense of progression, was beautifully suggested, says Schwarz, in the Gothic nave. His own image for it is a vault in which the idea of "light along the way" is declared in successive bands



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continuous from horizon to horizon (Illustration 6).

Yet with all its wealth of insight and association, declares the author, Gothic church architecture is nevertheless bound to an epoch, and its basic form no longer answers to us. Its arches do not declare, however beautifully they attempt, "reaching to heaven"; and its linear perspectives merely return upon themselves when infinitely projected.

Beyond this "fourth type" of "the sacred way," there is a fifth series of essays based on the journey completed in an "arrival." This fifth group is conceived in terms of "the dark chalice." The diagrams representing it are among Schwarz's most beautiful, as for example, 8. Here the vault as well as the plan is parabolic, rising to its full height above a large red rose over the large portal. ("The parabola is intrinsically open.") Above the altar, on the curving back wall, is proposed a painted image of Christ with open arms. And yet the ultimate significance of "the dark chalice" is a configuration of death.

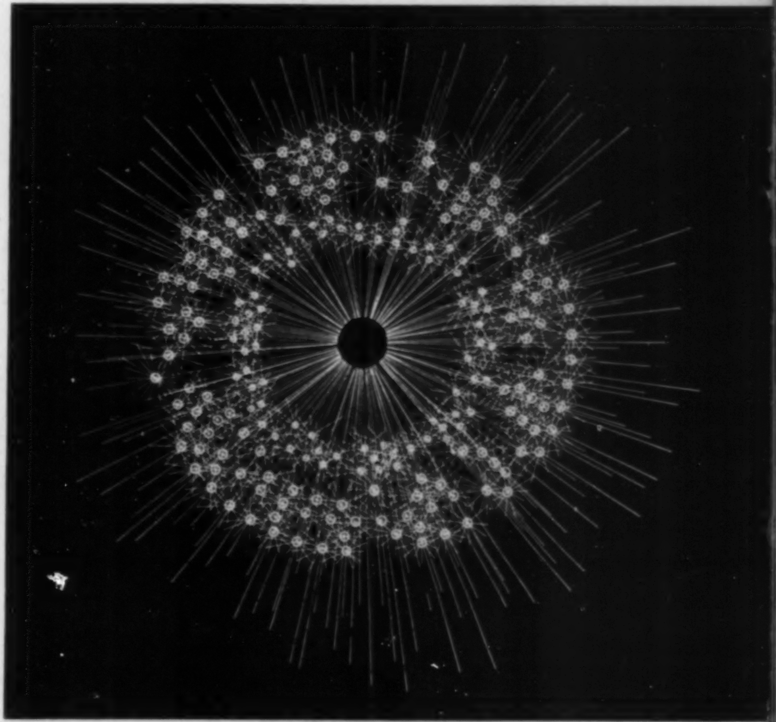
So, at another cast, a sixth group is added to the allegory — this time, beyond death, the "dome of light." This is a transformation of the very first plan, the rounded central dome, but bright not dark — a dome to be built of light, suffused with light, soaked in light, so that every point, including communicants, becomes "a star" (10). This was prefigured, says Schwarz, in the Baroque, which began just where Gothic ended, arriving at a burst of light at the end of the Gothic pilgrimage (9). Historically this "bright star" succeeded where least expected, in the Church of the Fourteen Saints at Neresheim, in which "the heaven within answers to the heaven round about, and what remains of the earth in the surrounding walls is clad in white the color of the bride."

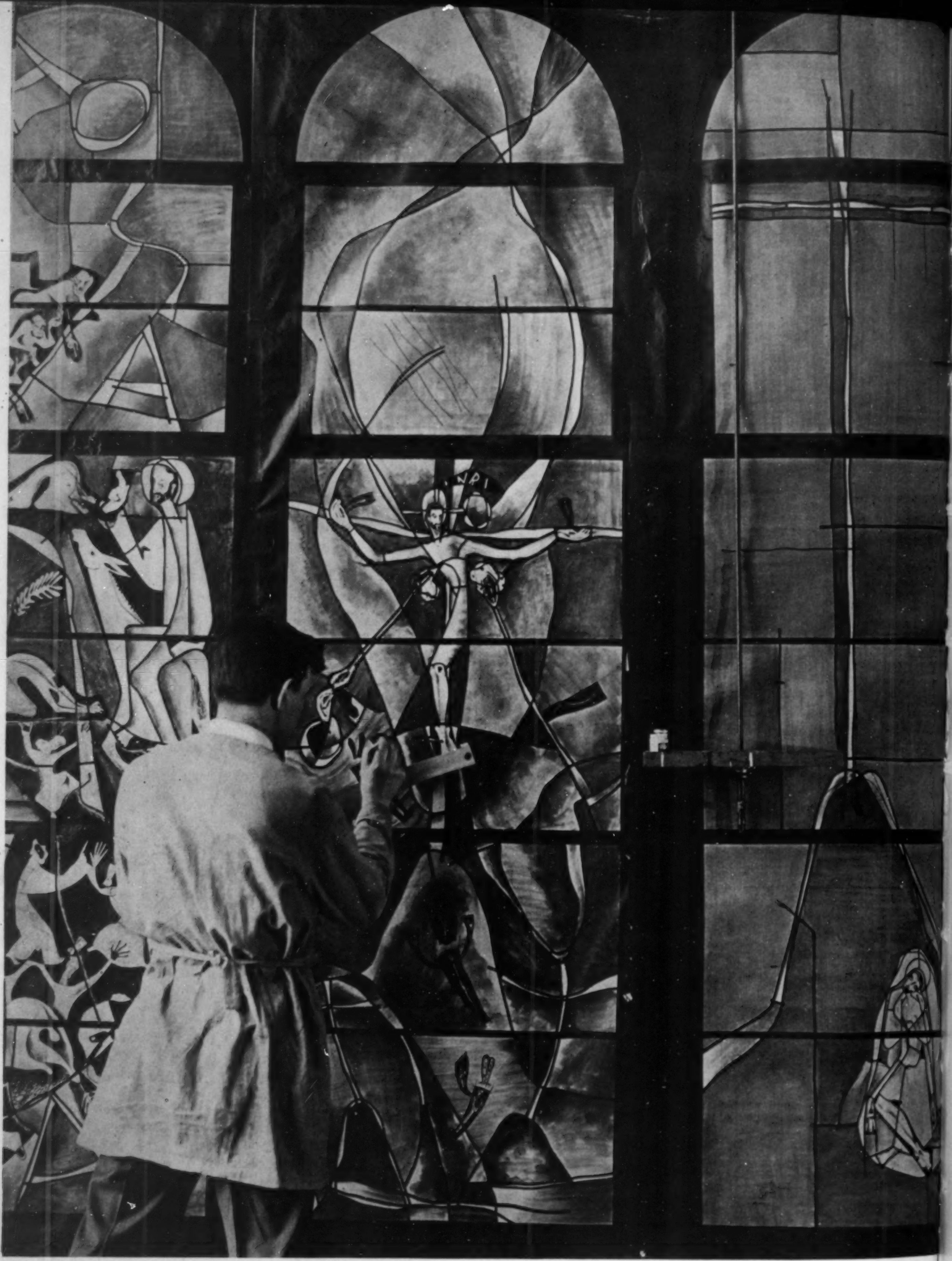
So the allegory culminates in a seventh archetype, the "dome of all times," uniting in itself the main components evolved out of all the rest (4, 6, 10) — the "dark star" of the germinating seed, the successive arches of "the way" through the day and history, and the "bright star" of the final culmination. (Frontispiece, page 116.)

So brief a review does grave injustice to a deep and poetic book, escaping as it does from small controversies of the day, with the rare gift for humility and for viewing time "sub specie aeternitatis."

Many who do not share the religion of Schwarz have admired the book for the manner in which history is not assembled and "modified" but distilled, and present-day architecture is searched for the large symbol.

Third basic element: ''bright star'' of the ''dome of light'' **10**

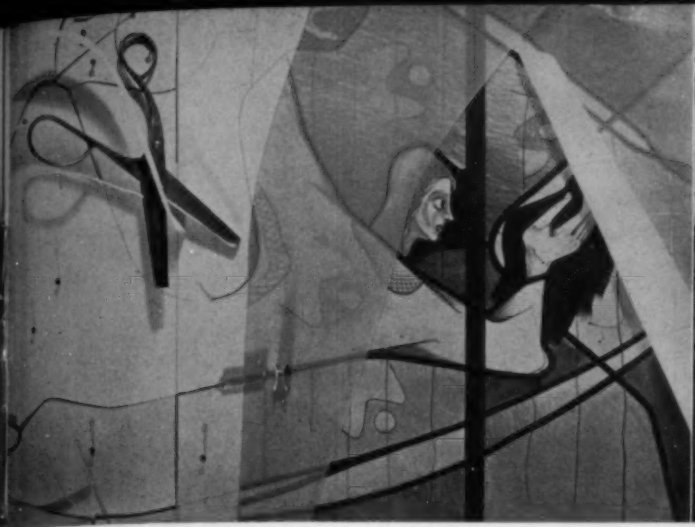




1

Robert Frei Photos

The first step in the creation of a stained glass window, after the preliminary sketch, is the production of the full-sized "cartoon." In working on this opaque medium, the designer must be aware what will be the ultimate effect when light is transmitted through the glass, under differing conditions of direction and intensity. The designer seen at work is Robert Harmon



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182 Misc
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3

4

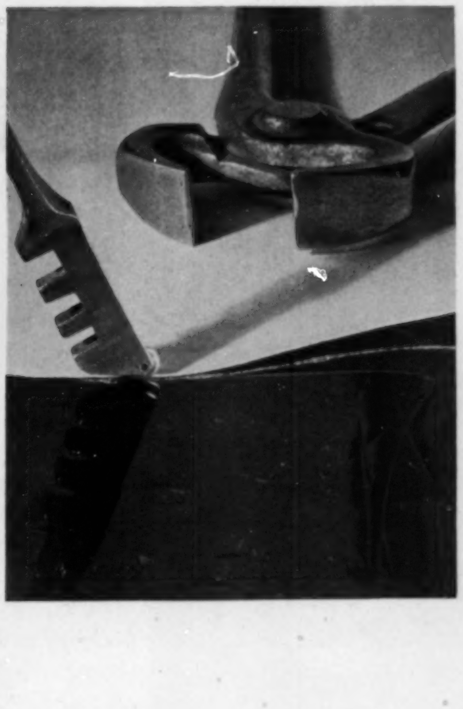
Using the cartoon as guide, patterns are cut out of paper with double-edged shears (2) which automatically allow space for the lead strips or "cames" between pieces of glass. Colors are matched against some 1600 numbered samples (3) keyed to compartments (4)

THE FUTURE OF STAINED GLASS

The workshop and designs of Emil Frei, Inc.

A COMMONPLACE of church architecture is that "the stained glass of the twelfth and thirteenth century cannot be equalled." The contemporary work of Emil Frei does not make this futile attempt. In the faith that divine inspiration did not exhaust itself in the thirteenth century it seeks to produce the best that can be laid upon the altar in the light of the present day. Those who look ever backward have missed those new opportunities that present themselves. There follows a pictorial presentation of workshop methods, designs and projects, for the sake of clearer understanding by church architects of the present and future of glass. The Frei family, incidentally, has been making stained glass as far back as anybody can remember.

5



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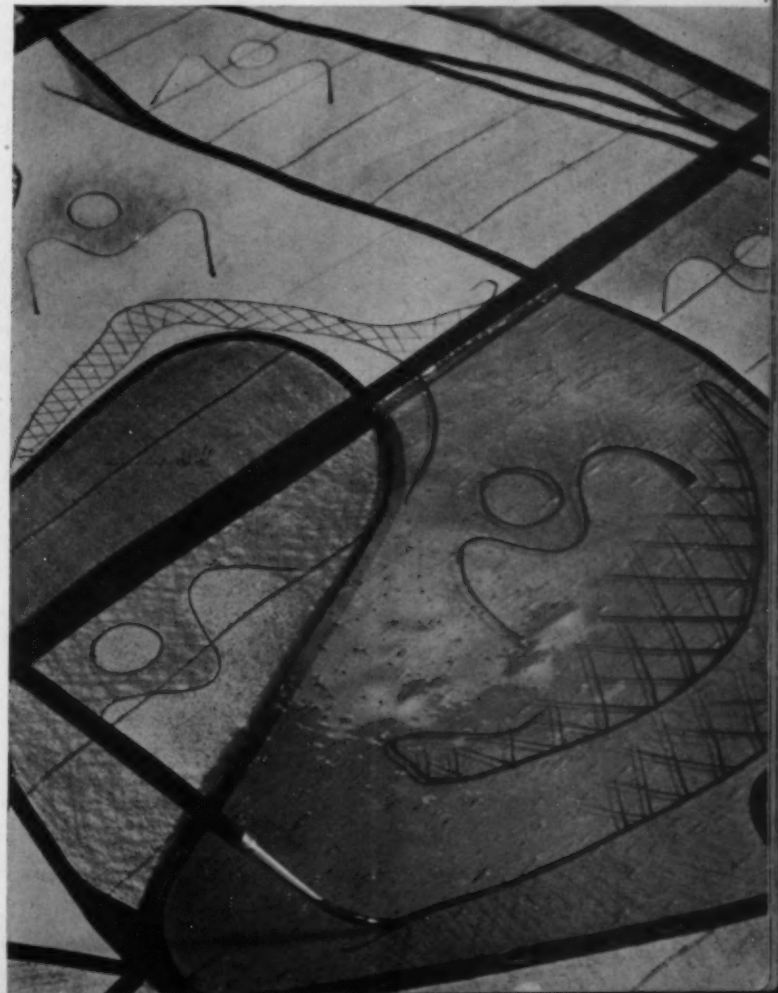
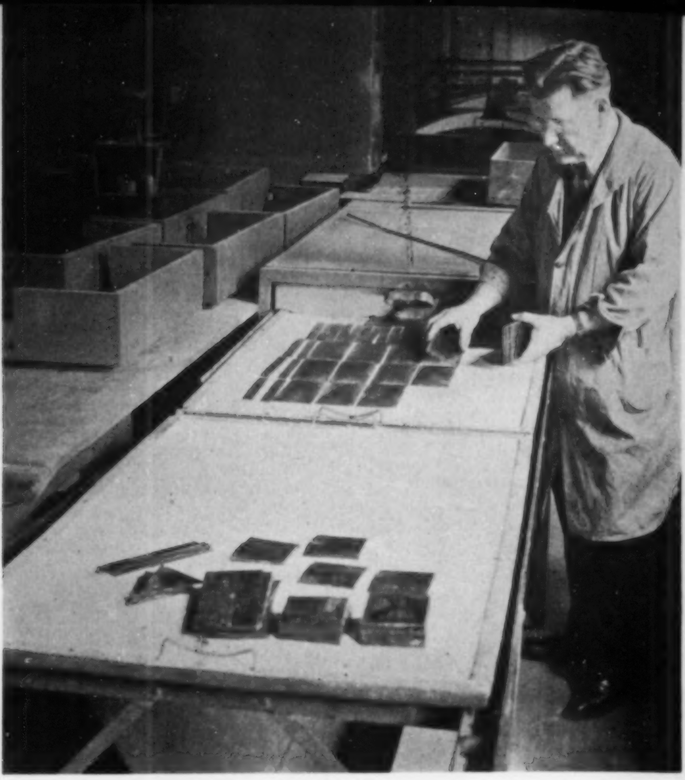


Glass is cut to the pattern with ordinary glass cutters (5) and assembled on a large piece of plate glass for viewing, after which the painted design is added (6). Colors are metallic oxides containing a flux which permits vitrification by firing

Flash firing of the glass in a gas oven at approximately 1200° makes the painted design an integral part of the glass and the window. Cooled glass is assembled (8) for final leading



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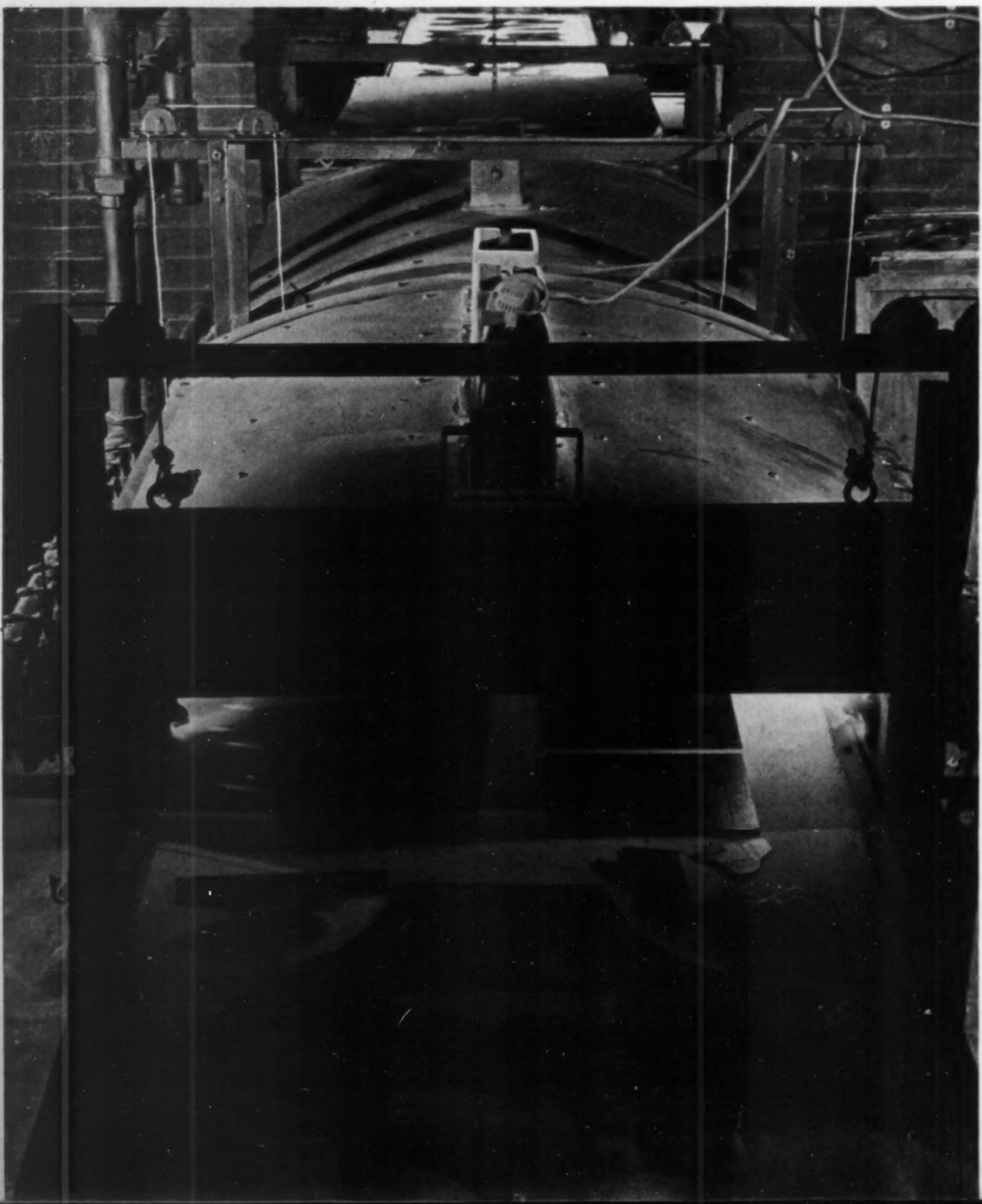

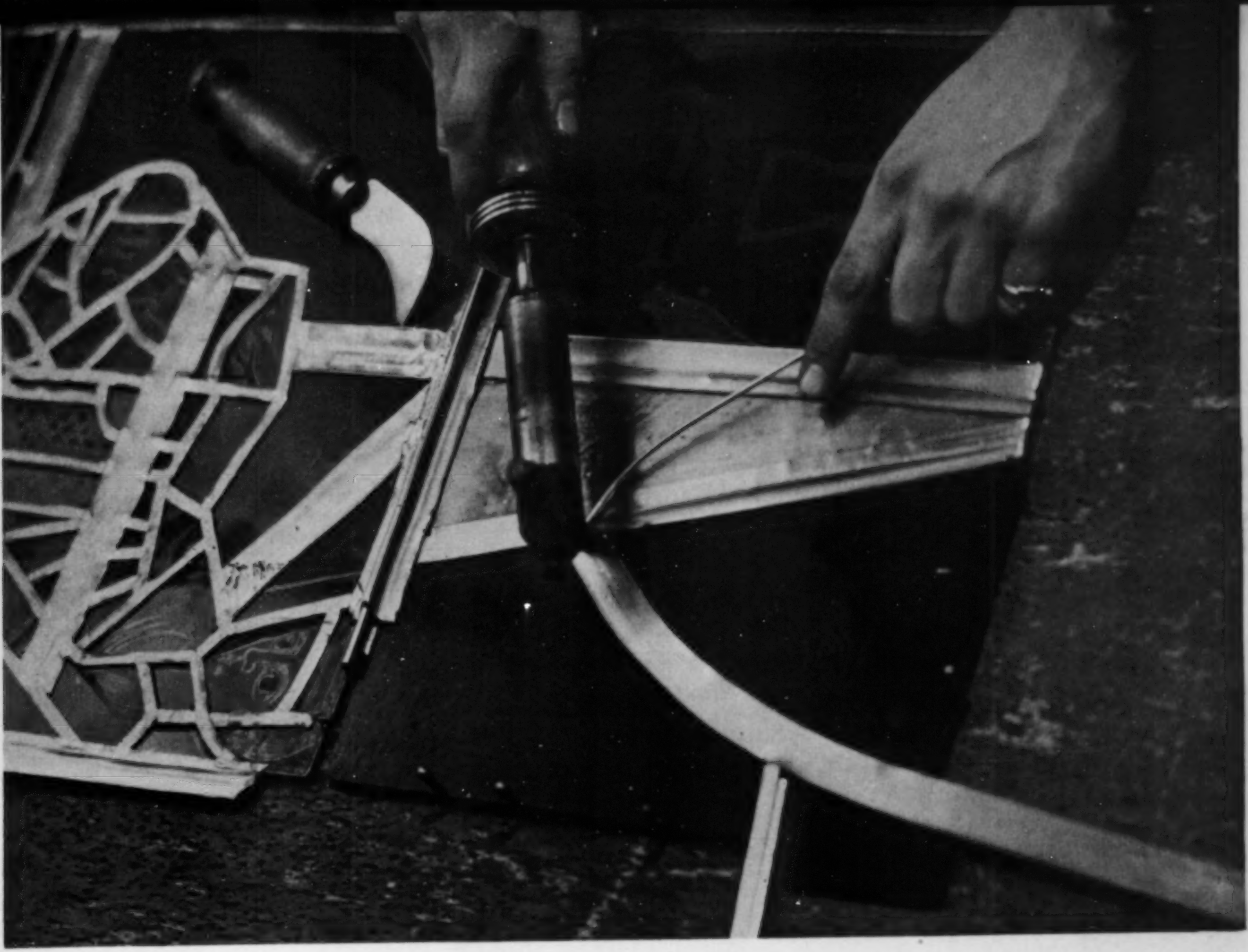

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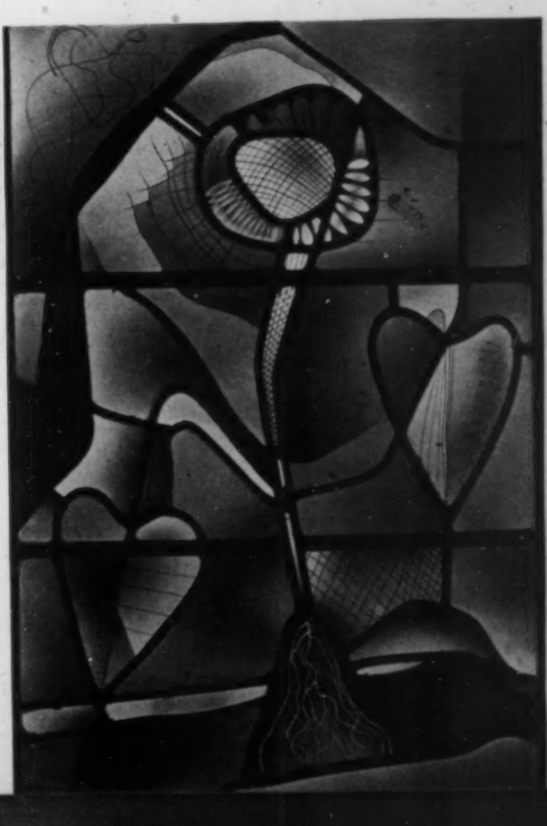
Pliable lead cames are bent, cut, placed, flattened, soldered, and a waterproof cement brushed in to hold glass securely

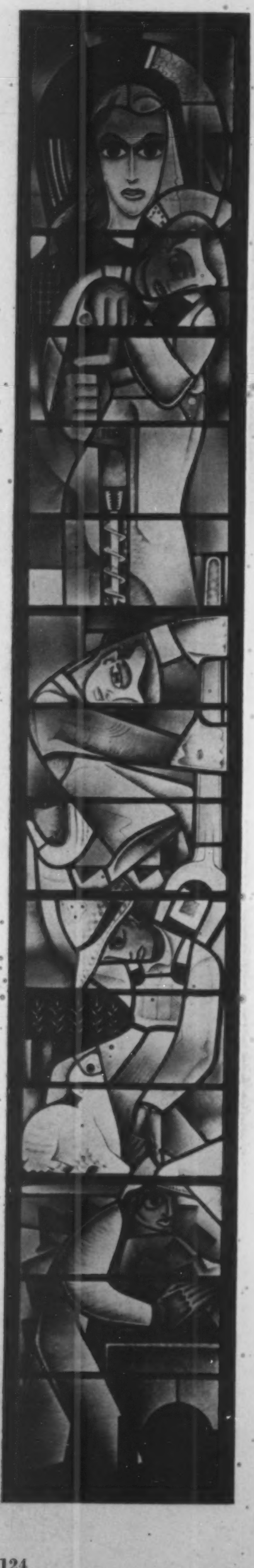
Robert Frei Photos

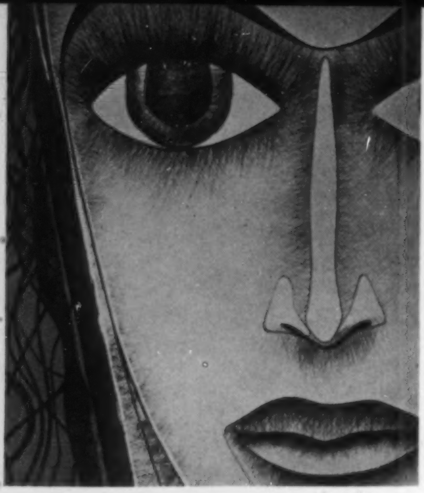
The bane of the stained-glass designer (he is really a glass painter) is the religious patron who wants to reproduce a banal picture postcard in his window. Stained glass designs must first of all have a character sufficiently formalized to consort with architecture (right).

A good many designers, seeking an "antique" effect, cover whole areas with a ground which is then etched away but leaves a film and particles caught in cracks and bubbles of the glass. This appreciably dims the brightness of the final effect. Mr. Frei prefers clean techniques which leave the full "glass" sparkle



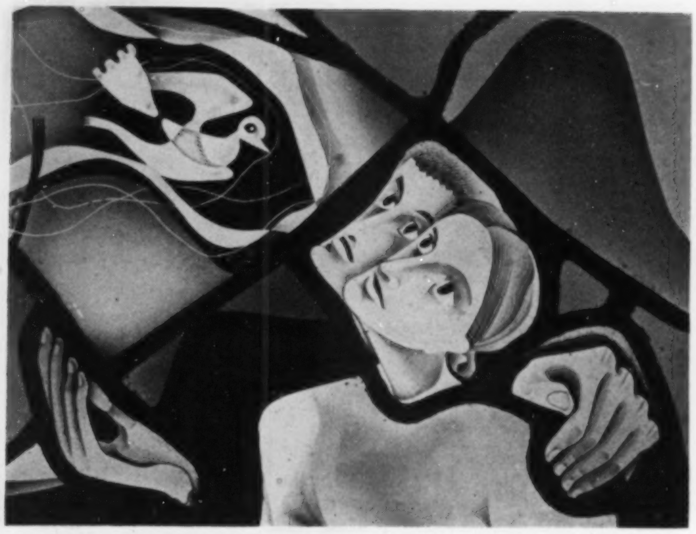
DRY BRUSH



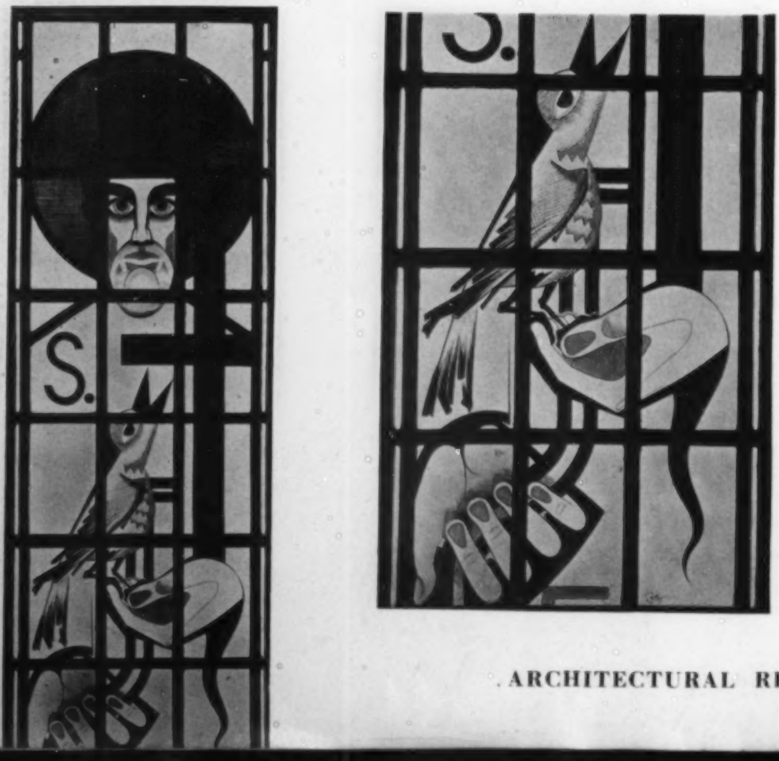


Painting techniques include any current method available. Dry brush technique, left, is used in "Christ the Worker" window, made for Mr. Otto Spaeth for exhibition in Dayton museum of fine arts, Barry Byrne, Architect. Air brush technique is seen in medallions for Sacred Heart Church, Baton Rouge. Cross-hatching was employed in St. Mary's Church, Taylorville, Ill., by Aschauer

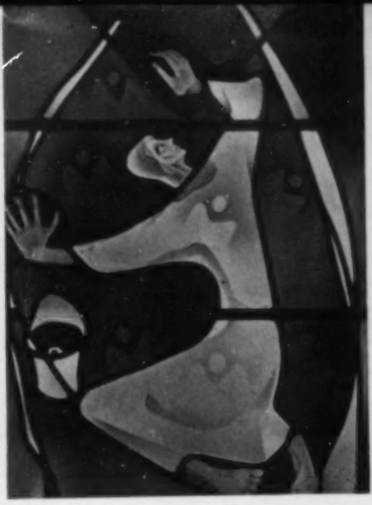
AIR BRUSH

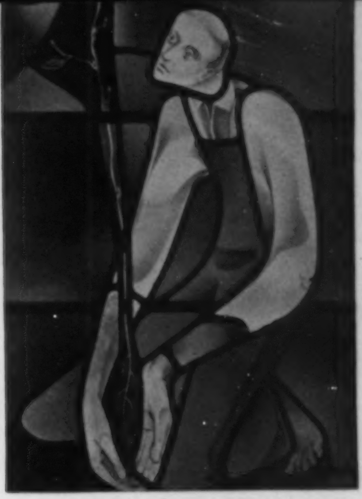


CROSS HATCH

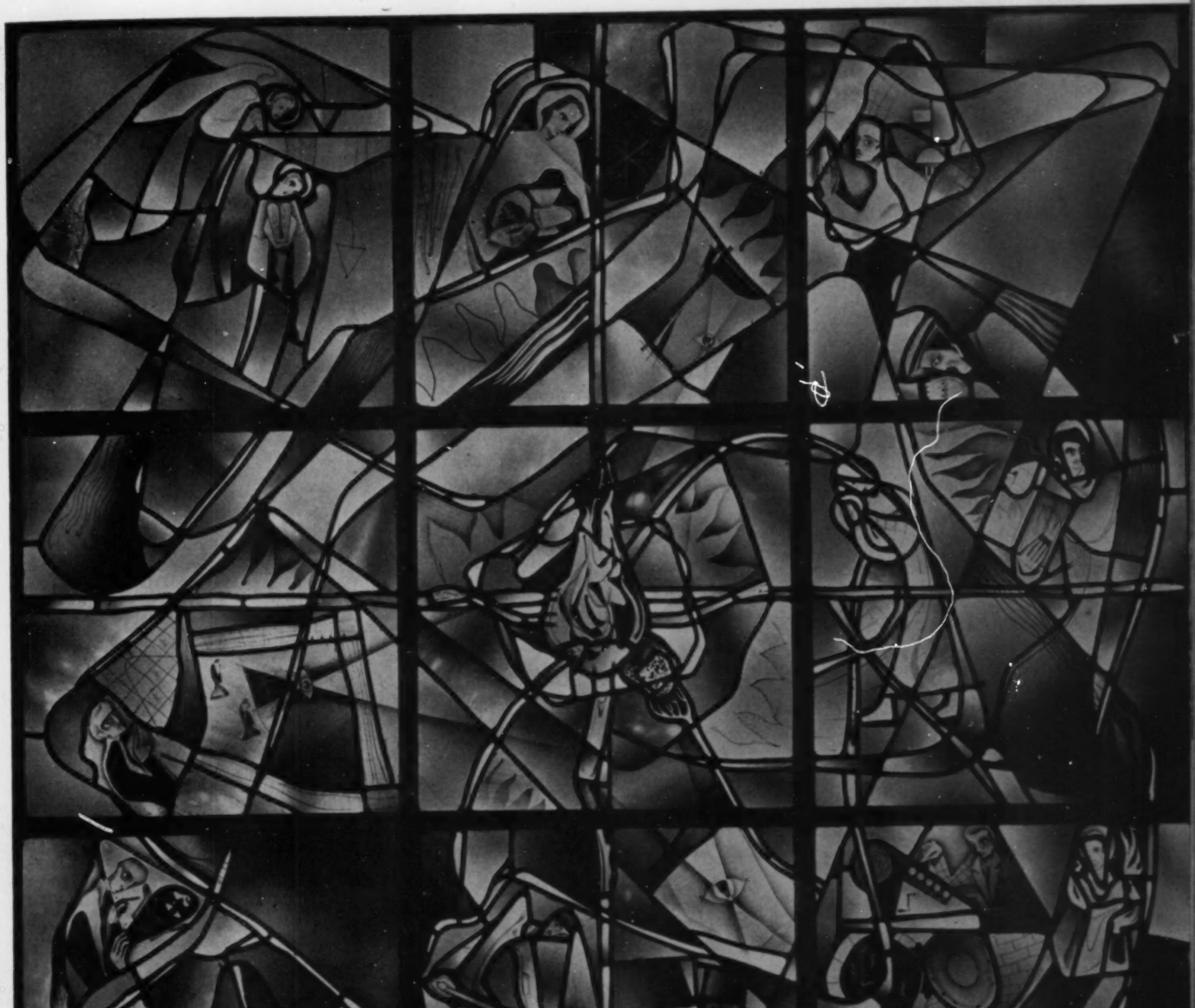


Top views are of medallions in the Baton Rouge Church of which Bendernagel and Cazele were architects. The larger picture represents a window in the Union Avenue Christian Church, St. Louis, of which Grey and Pauley were architects. It shows the richness of pattern, combined with permanence, possible to modern painting in no other medium than stained glass with its translucence

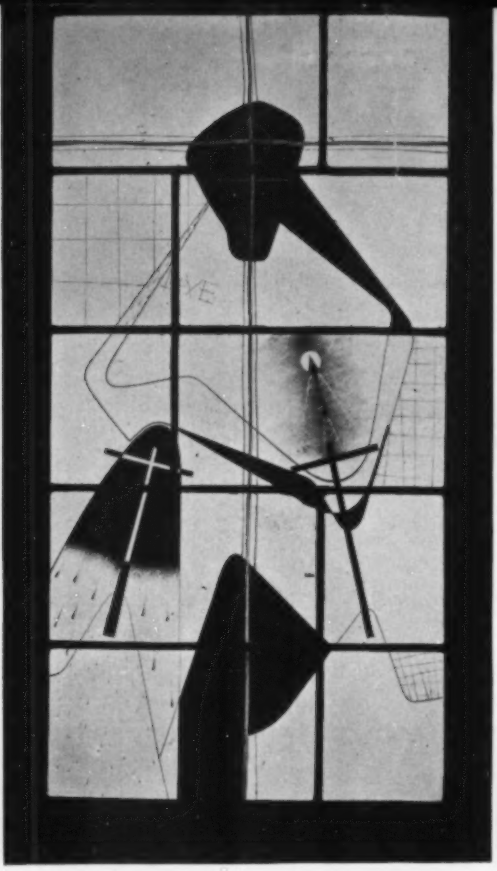




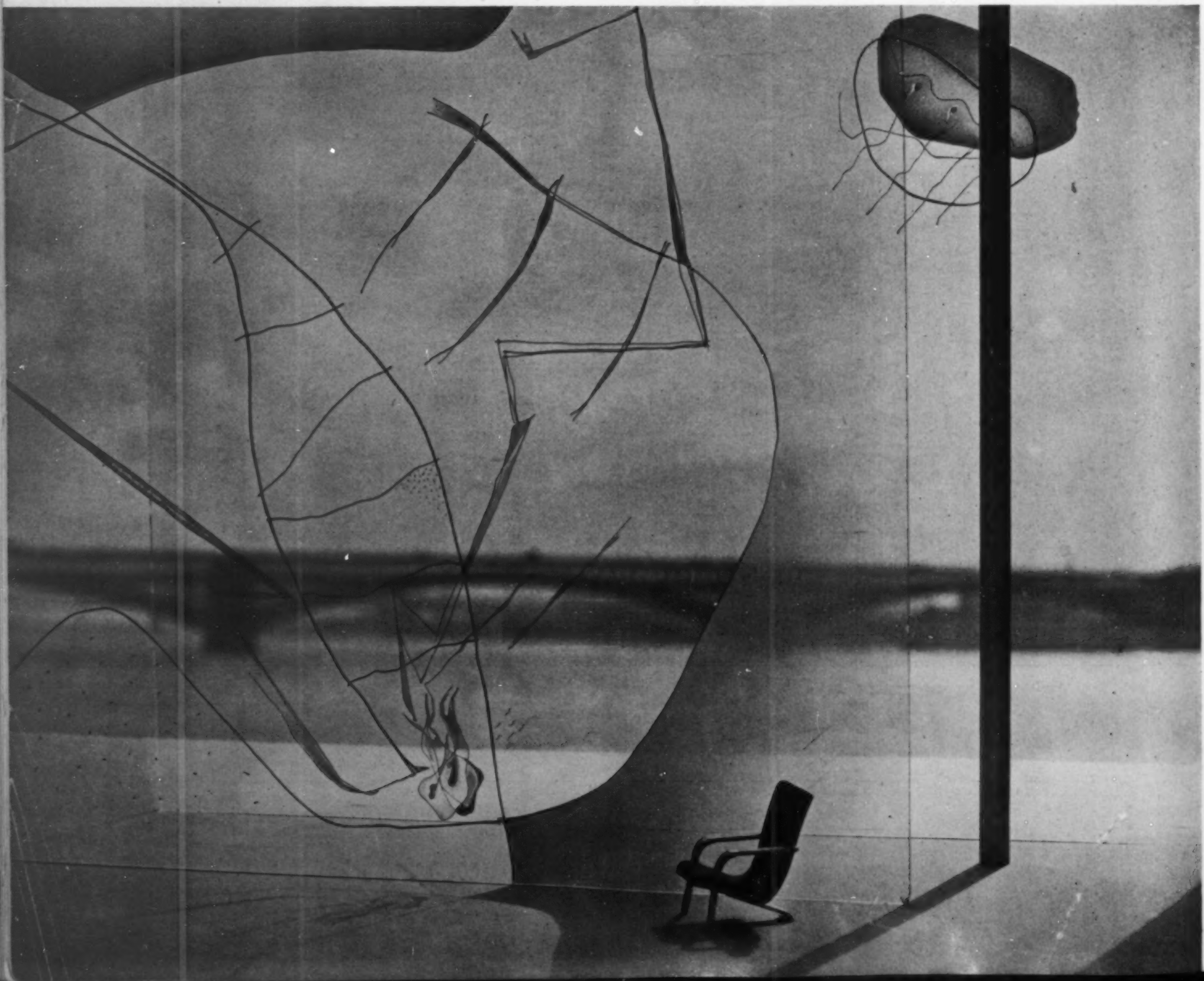
Robert Frei Photos



Stained and painted glass is a badly neglected medium, which, once released from the trammels of purely conventional thinking, can be used in secular contexts as well as religious ones. In the larger view is seen the suggestion of great stained-glass shields or screens, placed in the open as shelters against breezes. This screen was designed by the shop of Mr. Frei for Joseph Murphy, St. Louis architect, as part of his project for the Jefferson Memorial. If colored glass, carrying its own painted design, were to be used in conjunction with colored light, the architect would command an embarrassment of riches



Robert Frei Photos



PLANNING THE CHURCH COMMUNITY CENTER

Data from a Study by Elbert M. Conover

What follows is a program for a church school and church community center, comprehensive enough and typical enough to serve as a suggestive checking guide. It is taken, by kind permission, from the manuscript of a handbook on *The Church School and Parish House Building* by Elbert M. Conover, of the Interdenominational Bureau of Architecture. The full volume is to be published late this year.

The outline is fairly complete, and from it may easily be read requirements, in terms of square feet per person, for various kinds of rooms. The editors have added footnotes where the recommended standard has seemed too tight, in the pursuit of economy.

In common with most of the architectural literature that comes from church sources, this outline neglects those important factors of planning that deal with the *arrival* (by differing means of transportation) of church groups, the use of vestibules and the like for *gathering* areas, the efficient arrangement of interior *circulation* (and also the parking of vehicles). There has been some discussion of these factors, however, in earlier studies in the RECORD (October, 1946; September, 1947), and also of room arrangement for multiple use, such as extra church seating in a parlor.

Administration

1. *General church office* for church secretary; desk space for financial secretary, church school superintendent, and secretary; and counter separating desk space from reception room.
2. *A work room* adjacent for filing cabinets, shelves, supplies, addressograph and mimeograph equipment.
3. *Fireproof vault* in the basement story.
4. On the second floor, *pastor's conference room* with fireplace, lavatory, clothes closet, built-in book shelves, and minimum clear floor area of 240 sq. ft.
5. *Study for minister of education*, with closet, book shelves, and minimum floor area of 120–160 sq. ft.
6. Similar room for possible addition to staff.

Children's Division

1. *A nursery for children under 1½ years*, 250 sq. ft., for 10 children and attendant.
2. *A nursery room for "toddlers,"* 1½–2½ years of age, about 300 sq. ft., for 15 children and two helpers.
3. *A nursery classroom for 2½–3 years* of age, 400–450 sq. ft., for 20 children and two helpers.
4. *A lavatory* with juvenile size fixtures to be adjacent to the above rooms.
5. *A classroom for 4-year-old children*, 320–340 sq. ft., for 16 children and one teacher.
6. *A classroom for 5-year-old children*, 360 or more sq. ft., for 16 to 18 children and two teachers.
7. *A lavatory* with juvenile size fixtures to be easily accessible to the above rooms.
8. *Hot and cold water* to be available and bathinette for the use of those in the first two rooms. Coat hanging space to be immediately adjacent to the rooms where attendants can help the children with wraps.
9. *Ceilings* to be 8 ft. in height, liberal amount of clear glass in windows with small colorful "incidentals" inserted. Decorations to be planned in conference with shelves for each of the above rooms. Tack board and picture rails with groove in the rooms for 4- and 5-year-old children. Tack boards to extend 2 ft. above the picture rail which is to form the base of the tack board, center of tack board to be at average eye level of the child.* Closet space with low shelves for light rugs to be spread on floor when needed. . . .

---

* 38 in. (See Time Saver Standards, ARCHITECTURAL RECORD, Feb. 1948, page 147)

10. *Six classrooms for children 6–11 years* of age, varying in size, allowing about 12 sq. ft. per person for from 15 to 18 pupils and one teacher in each room.

11. *Coatroom space* for above group of six rooms: boys and girls *lavatories* within easy reach of this group of rooms.

12. *Equipment* for rooms of 6–11 year old children: built-in blackboards, about 3 by 4 ft. in size; shutters to be used as tack boards for each blackboard; a closet for teacher's wraps and supplies; clear glass windows with small, colored inserts.

13. *A children's chapel*, seating 60 children and choir of 12; tinted glass windows; a worship center; leader's desk at one side; portable blackboard to be available.

14. Equipment for showing *sound pictures* in this chapel room. (This room will be used twice each Sunday by two or three grades grouped together and occasionally by single grades according to schedule.)

Youth Division

1. Provide a Junior High *assembly room*, 480 sq. ft. A worship center will be at one end and a fireplace at the opposite end. Closet, 18 in. deep, top half of one side with shelves, other side full length for leaders' wraps. Have two classrooms, 200 sq. ft. each. (One class and small commissions will use assembly room.) Coat hanging space adjacent.

2. *A youth room*, 500 sq. ft., with fireplace at one end and worship center at the other. Built-in book cases, closet, kitchenette adjacent. This room to be scheduled at Sunday School period for Senior High assembly and also at another period for young people's assembly when required:

3. Provide *five classrooms* varying in size from 100 to 120 sq. ft. each, to be available for Junior High, Senior High and older youth groups.* (Tablet arm chairs to be used.) May be on second floor.

Adult Division

1. *Fellowship hall* to be used by largest adult group; church parlor and boys' and girls' club rooms and the room for floor and table games to be assigned to adult groups.

2. *The choir* is to be organized as a class in the religious arts, the choir room to be used for this group.

3. *Three adult classrooms*, about 210 sq. ft. each, to hold about 30 persons.* One of these on main floor.

Fellowship and Recreation

1. *Fellowship hall* with 18 ft. ceiling and an unobstructed floor area, 40 by 70 ft.; stage, 20 ft. deep, with widest possible proscenium opening; no partitions at the ends of the stage; straight front; no foot lights; trap door, 24 by 72 in., in floor of stage.

2. *Kitchen* at end of the hall opposite the stage, with 9 ft. ceiling; serving room space and counter between hall and the kitchen working space.

Room above kitchen may be the youth parlor with removable panels, to be used for overflow for fellowship hall audiences and, also, for placing moving picture equipment.

3. *The church parlor;* 800 sq. ft. of floor space; fireplace constructed of rocks gathered by boys and girls of the church; kitchenette available unless the parlor can conveniently be located adjacent to the main church kitchen; built-in book shelves so that this room can do double duty as a church library.

4. Three *bowling alleys.*

5. *Recreation room* with 9–10 ft. ceiling, large enough for two ping pong tables and two shuffleboard courts. (This room doing double duty as an adult classroom and small dining room.)

6. *Boys' club room* with floor space of 500 ft.; 4 built-in storage closets occupying 20 sq. ft.; equipped with drawers and shelves. Have fireplace built of rocks to be gathered by the boys.

7. Note: Youth room to do double duty for girls' club work. Built-in closets for these groups as requested by the recreational committee.

8. Note: Recreational unit of the plant may be a two story unit with the ground floor excavated 4 ft. below grade and on this lower floor, bowling alleys, game rooms, club room and very liberal provision for lavatories and storage; the fellowship hall on the main floor. 9 ft. ceiling for the lower floor. See suggestive sketches provided from other churches by the church building consultant.

9. *Refreshment booth*, easily accessible to game rooms and fellowship hall.

For the Music Program

The following items in the program presented by the Committee on Worship and the Religious Arts is fully approved and their inclusion in the building program is urged by the Board of Education.

1. *Choir assembly room* to be used also as studio for the minister of music.

2. Choir room to have minimum clear floor space of 480 sq. ft. for assembly of 40 persons; ceiling to be treated acoustically so that the choir may sing at full volume; room located so the choir can enter nave at the end of the center aisle.

3. *Men's and women's robing rooms*, opening off the choir room.

4. Also have *boys' robing room* and *girls' robing room* for children's choir, or space for additional cabinets; space for hanging robes for a total of 40 men and boys and 40 women and girls.

Recommendations as to floorings, mechanical equipment, wiring, lighting, heating and ventilation, color treatment, decorations are approved as in the general building program.

We understand that a future unit to contain additional rooms to be built when the growth of the school warrants it is considered a part of the total building program.

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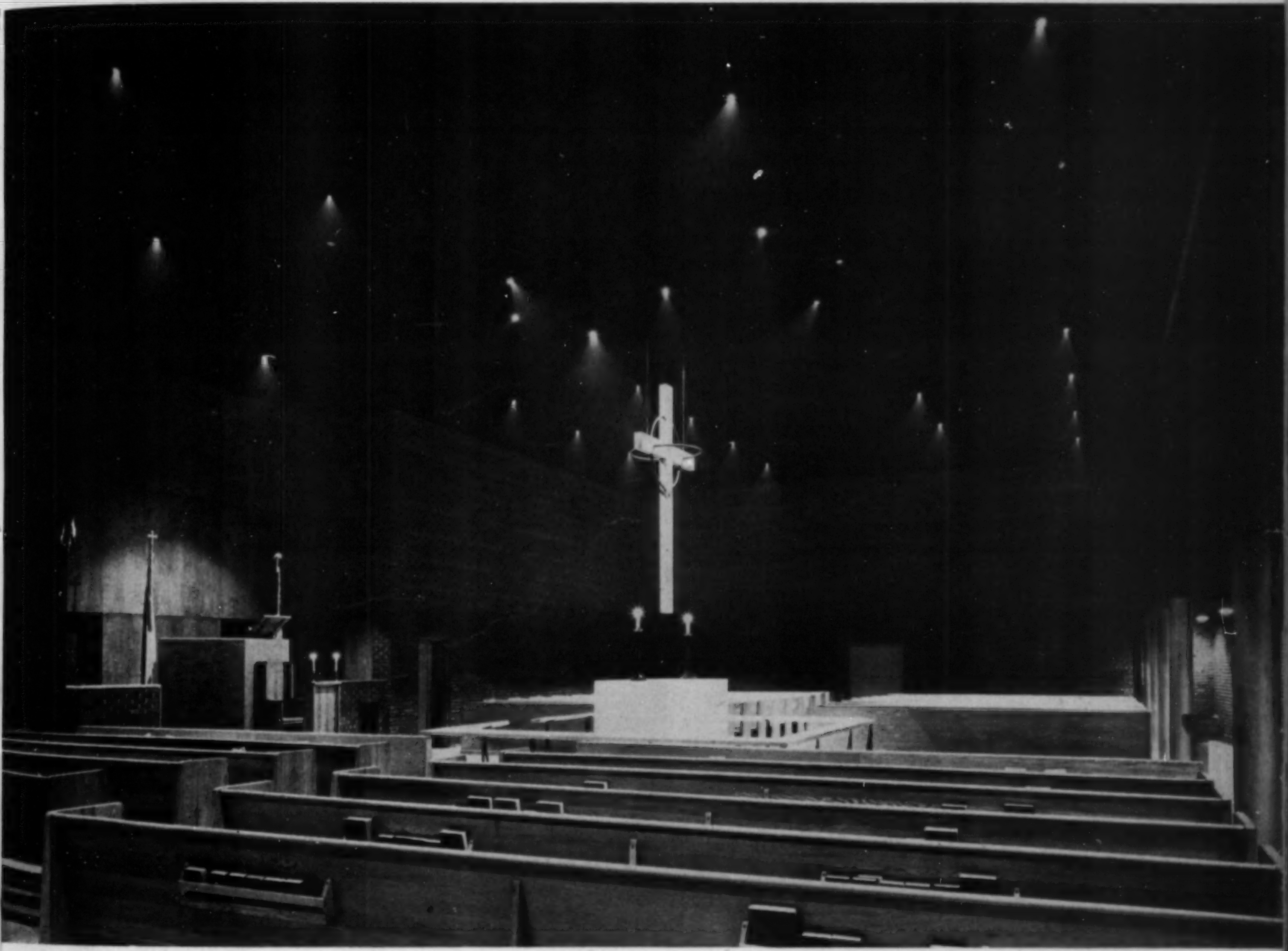
* *Impossibly tight. Minimum space per person in small rooms like this would be 10 to 12 sq. ft.—Ed.*

A WINDOWLESS CHURCH WITH CENTERED ALTAR

Church of St. Clement (Episcopal), Alexandria, Virginia

Joseph H. Saunders, Jr., Architect

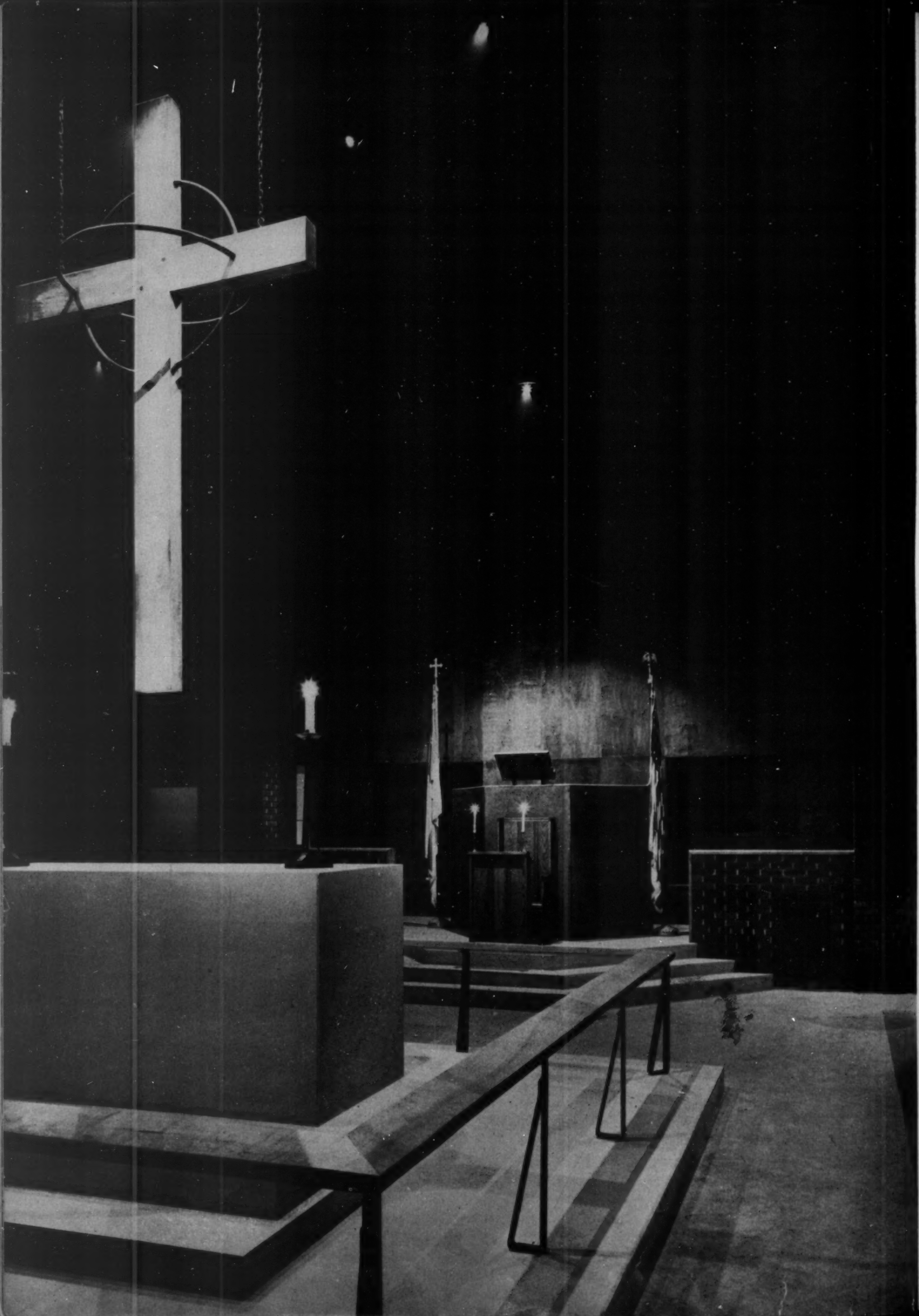


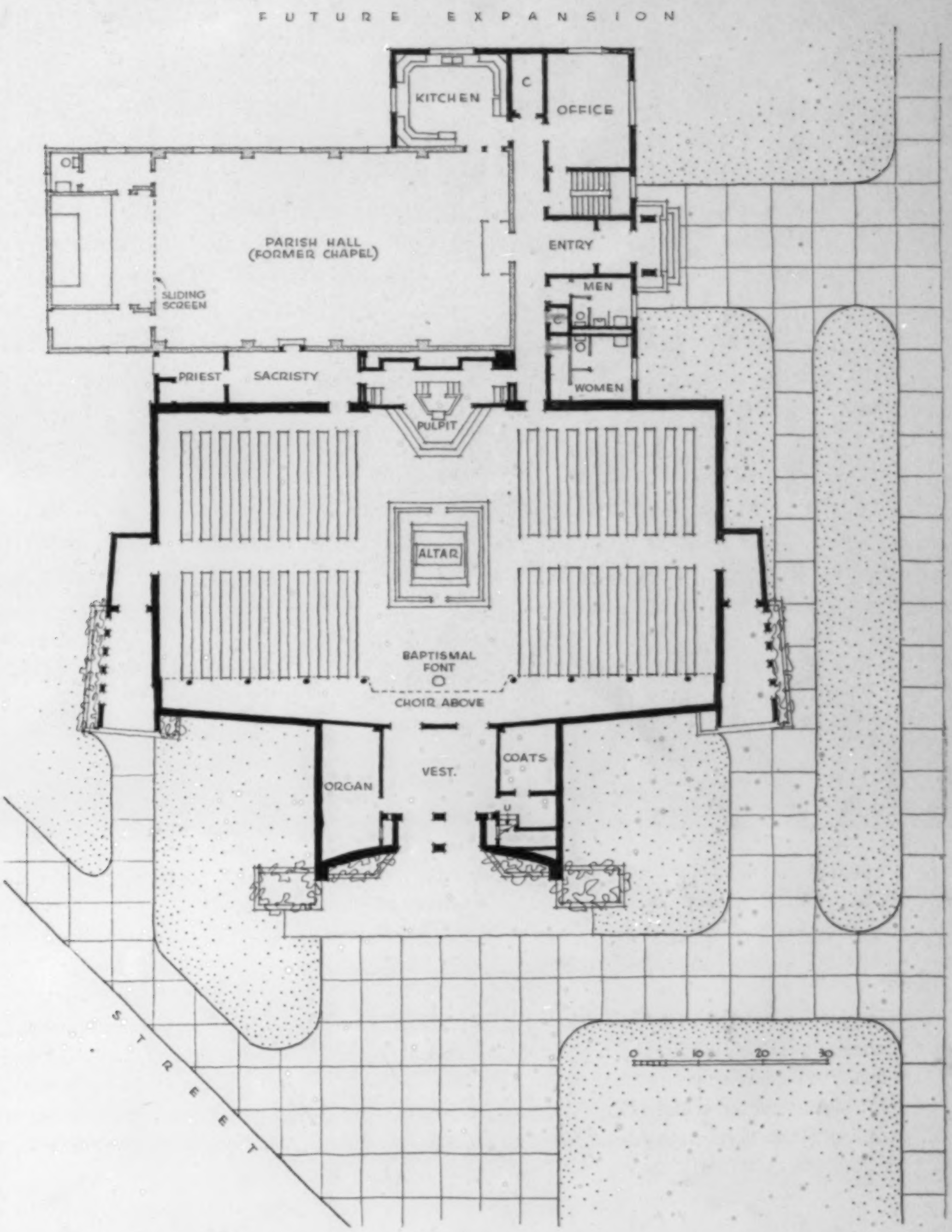
Gottscho-Schleisner Photos

This remarkable little church, seating a congregation of 400, departs radically from the "stained glass tradition" in its entirety, and converts the new sciences of artificial illumination and air conditioning into instrumentalities for worship. Strongly liturgical in concept, it places all emphasis upon the central altar and a plain oak cross, which gives the illusion of hovering (it is suspended by chains from the ceiling); the dim "inward" light of the room rules out distraction.

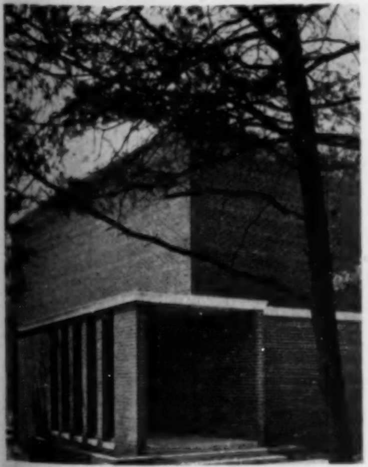
The focal element in the whole concept is that the congregation shall not merely look upon one another's backs but shall see one another, as a "family," joined at "the Lord's table." Though the actual form is truncated it would be represented diagrammatically by a ring, a striking example of the first "archetype" described by Rudolf Schwarz as quoted on page 117.

The exterior of the entrance, not yet completed, is to be dominated by a white cross flanked by murals.

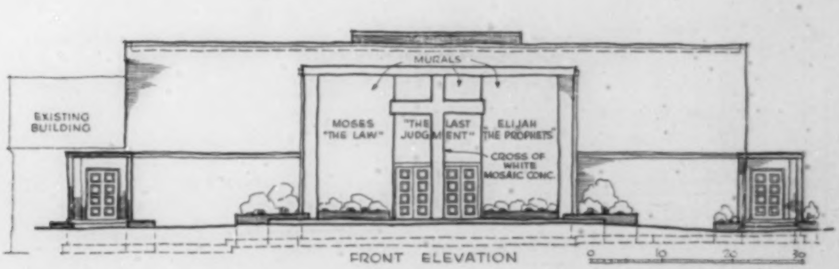


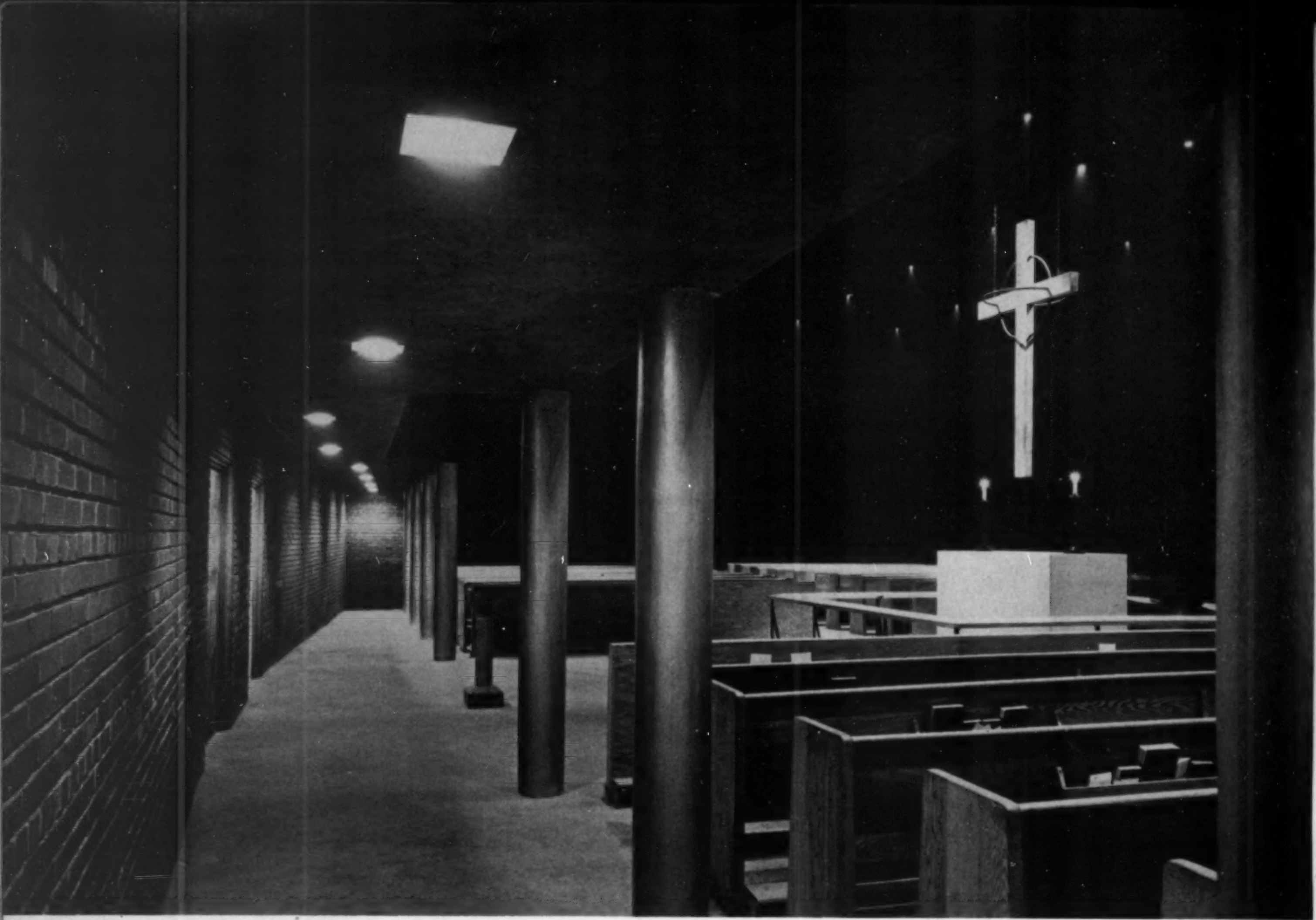

FUTURE EXPANSION
KITCHEN
C
OFFICE
PARISH HALL (FORMER CHAPEL)
SLIDING SCREEN
ENTRY
MEN
WOMEN
PRIEST
SACRISTY
PULPIT
ALTAR
BAPTISMAL FONT
CHOIR ABOVE
VEST.
ORGAN
COATS
STREET
STREET
0 10 20 30

Gottscho-Schleisner Photos



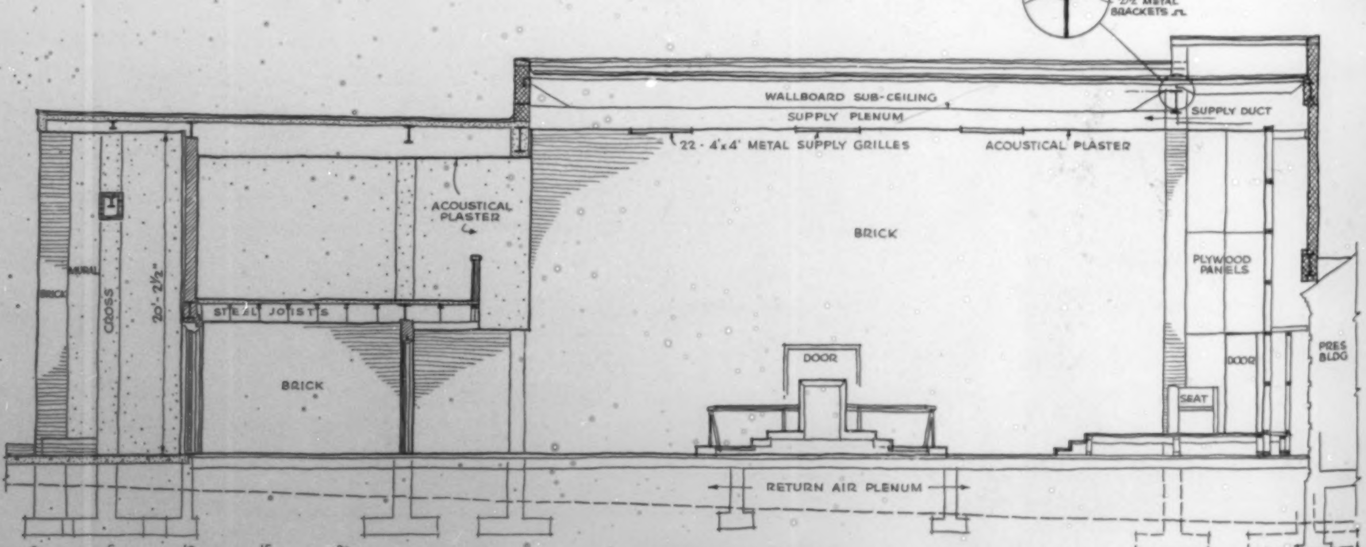
Situated among trees within the V formed by two major highways, and lying between two large housing developments, the modest little red brick building is planned to make effective visual use of its strong white cross and murals. The distinctive character of the building was made possible largely by the energetic rector, who built the original chapel in 1944 before there was a congregation, and has accordingly had strong influence


MURALS
EXISTING BUILDING
MOSES "THE LAW"
"THE LAST JUDGMENT"
ELIJAH THE PROPHETS
CROSS OF WHITE MOSAIC CONC.
FRONT ELEVATION
0 10 20 30

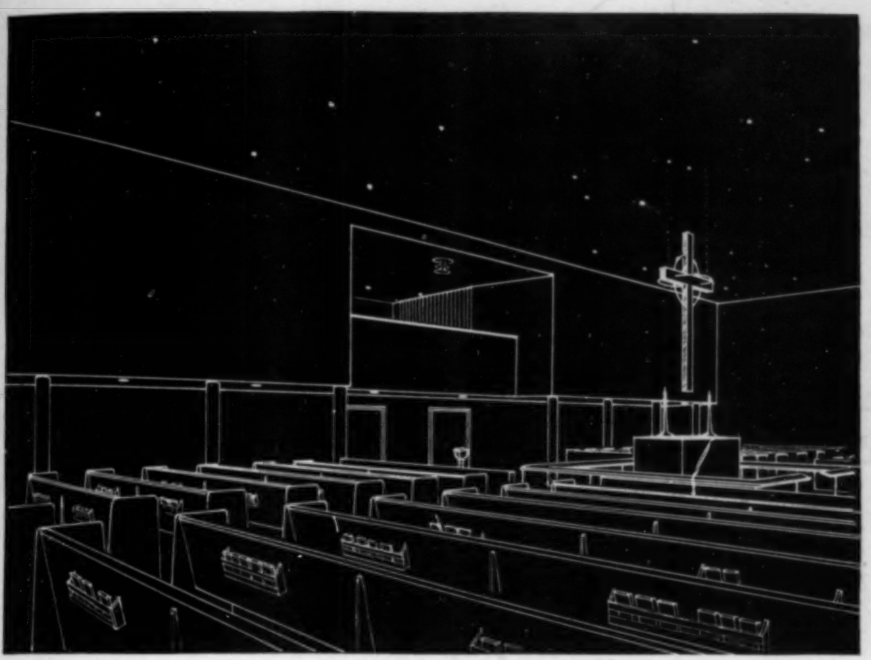


Gottscho-Schleisner Photos

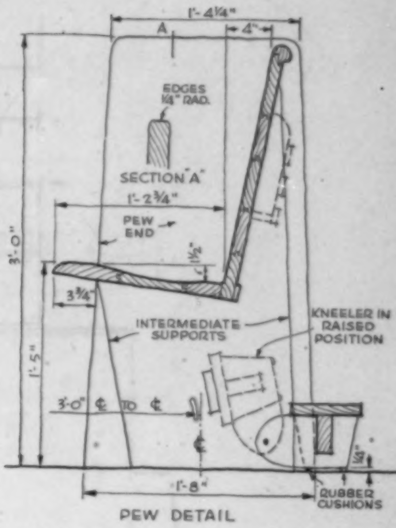
Every effort has been made to destroy the sense of boundaries in the interior. Pinpoint lighting is just adequate for vision; spotlights pick out the simple oak chancel, the sandstone altar, and the baptismal font. The main walls are of the same plain red brick as the exterior; the wall on the choir side is acoustical plaster painted a deep blue, the ceiling black. Conditioned air is supplied through grilles in the ceiling, exhausted through side walls just above the floor. Chancel, altar, font, choir, form the central axis


2½" METAL BRACKETS ⊓
WALLBOARD SUB-CEILING
SUPPLY PLENUM
SUPPLY DUCT
22 - 4'x4' METAL SUPPLY GRILLES
ACOUSTICAL PLASTER
ACOUSTICAL PLASTER
BRICK
MURAL
BRICK
CROSS
20'-2½"
STEEL JOISTS
BRICK
PLYWOOD PANELS
DOOR
DOOR
SEAT
PRES BLDG
RETURN AIR PLENUM
0
5
10
15
20

TRANSVERSE SECTION



Seating and accessories were designed by the architect


1'-4¼"
A
4"
EDGES ¼" RAD.
SECTION "A"
1'-2¾"
PEW END
1½"
3'-0"
3¾"
INTERMEDIATE SUPPORTS
KNEELER IN RAISED POSITION
1'-5"
3'-0" ℄ TO ℄
℄
1'-8"
RUBBER CUSHIONS

PEW DETAIL

The program for this church was summarized in a statement of the rector, the Reverend Darby Wood Betts, from which excerpts are quoted:

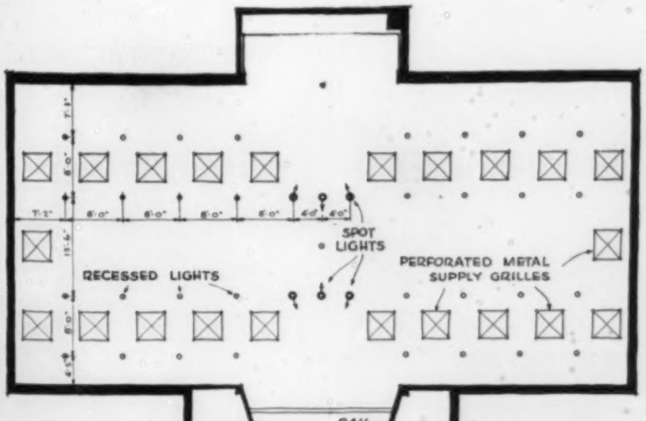
"The Church to speak clearly must speak in current or contemporary language in buildings as well as in sermons. This has certainly been her history. . .

"For some reason or other, today finds the Church pursuing an uninspired course of slavishly following the past with imitation Colonial or what is worse imitation Gothic . . .

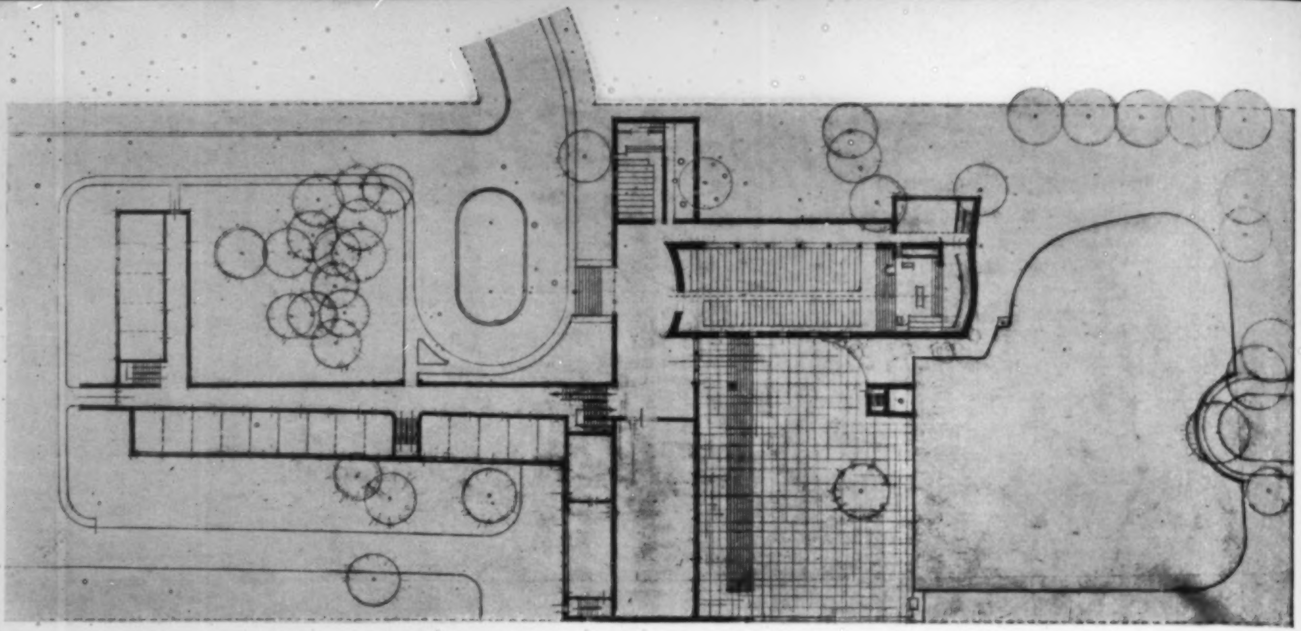
"The Church is first and foremost a family called into being by its Father which is God. Therefore we sit facing one another rather than looking at the backs of each other's heads as does an audience; we are a congregation, those called together. Secondly, we have in the midst the symbols of the Originator and Head of the family. The altar has always stood for God's throne and presence; around the altar is the communion rail at which the family is nourished by the divine food provided by the Father. Over the altar hangs the empty cross, symbol of the sacrifice through which we are saved . . .

"The pulpit-lecturn, the place of the Word, or Bible read and preached, is on one face of the altar and the Font, the place of birth into the Christian family, on the other face of the altar by the main entrance. The building in its entirety represents the first installment of life in heaven which is the realization of God's fully achieved presence. Therefore we have strained every device known to our day to shut out the world, which is only a temporary dwelling place, in order that we might anticipate our final home and thus return to the world inspired and refreshed to fight against its powers that would destroy us . . .

"We look up into the darkness that reminds us of the vastness of the mystery of the over-brooding presence of God as does the night sky, and all variations of light and darkness, heat and cold, wind, rain, snow, and sound are shut out as much as is humanly possible. . . ."


7'-1"
8'-0"
7'-2"
8'-0"
8'-0"
8'-0"
8'-0"
4'-0"
4'-0"
15'-6"
8'-0"
4'-5"
SPOT LIGHTS
RECESSED LIGHTS
PERFORATED METAL SUPPLY GRILLES
RAIL
ORGAN WELL
0
5
10
15
20

REFLECTED CEILING PLAN

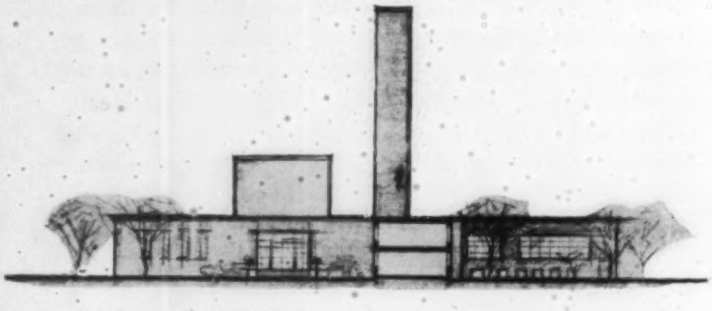


A COMPLETE CHURCH PLANT IN THREE VERSIONS

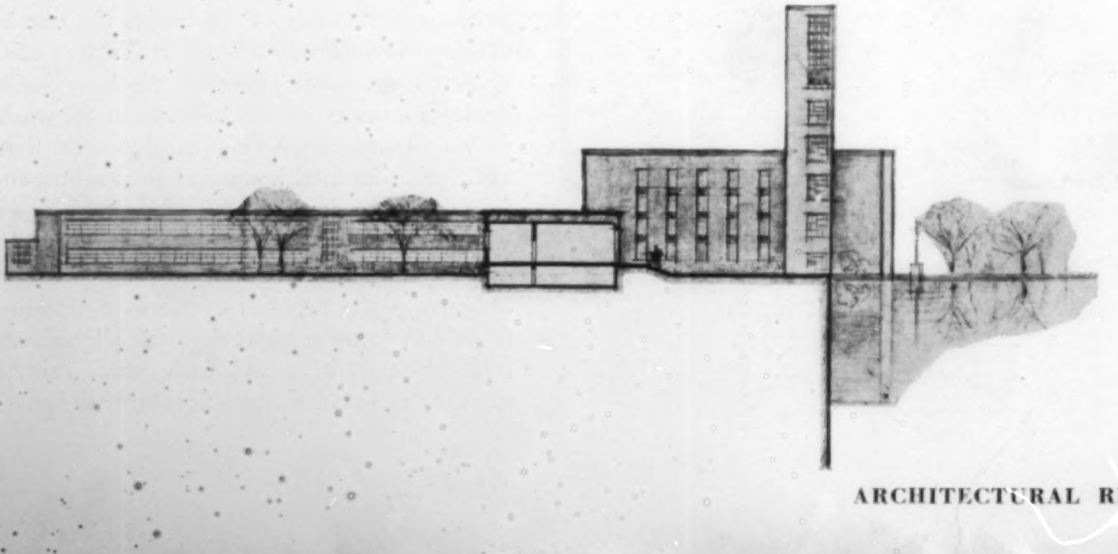
Projects for the First Baptist Church, Flint, Michigan

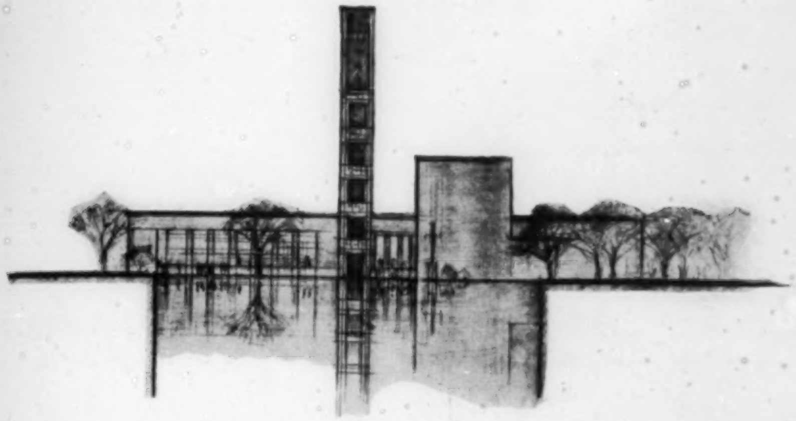
By Saarinen, Swanson and Saarinen and by

Robert Swanson Associates, Architects



The first scheme is based upon subtle and complete organization: the separation, both exterior and interior, of movement and quiet



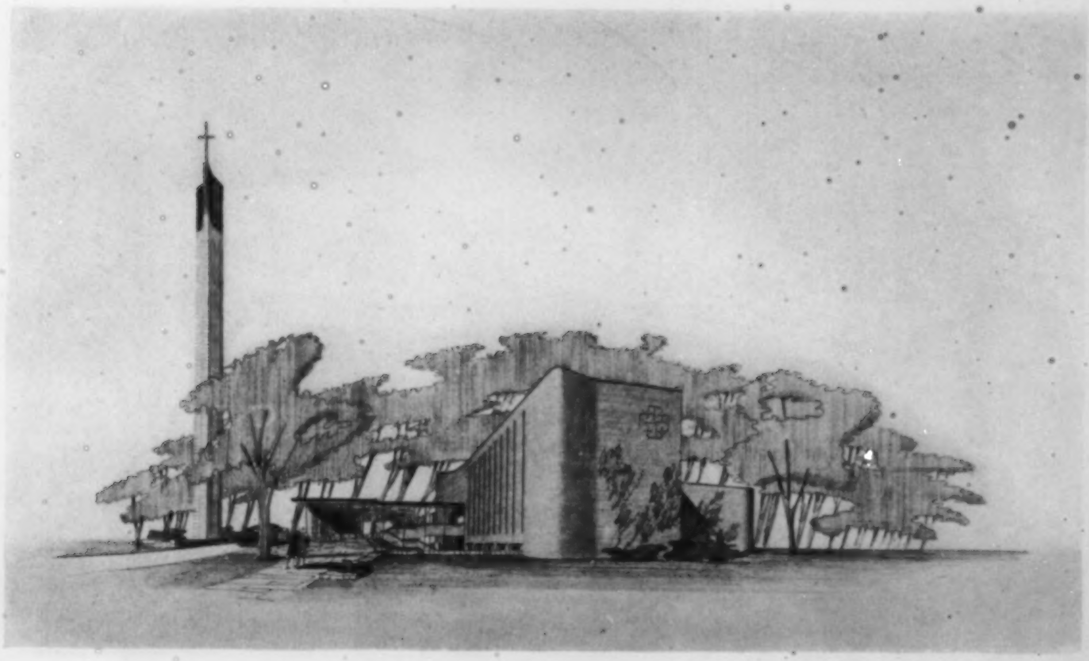


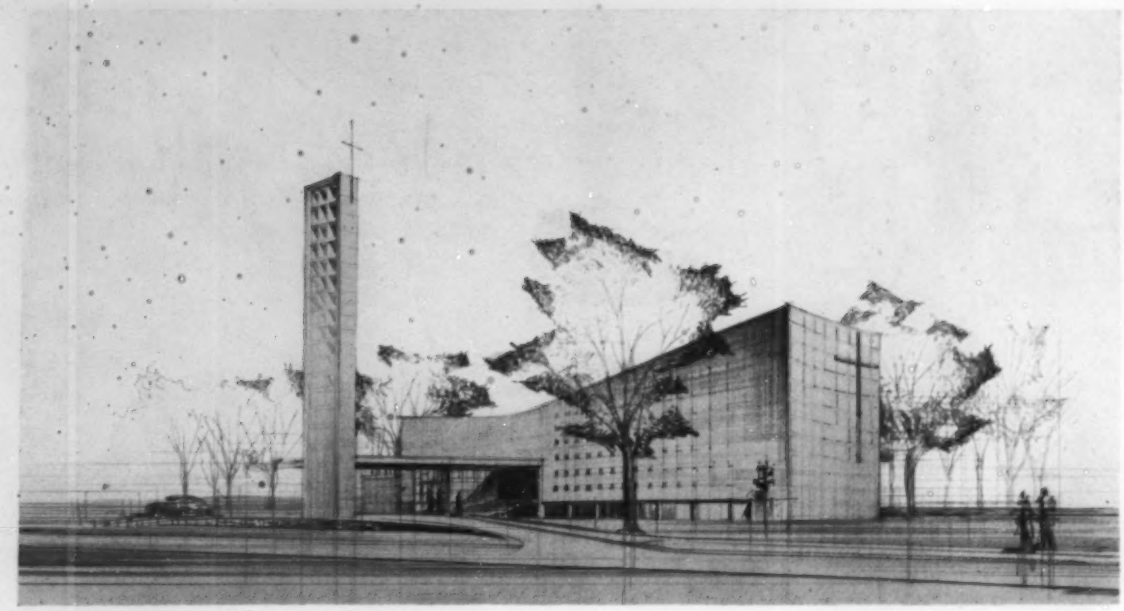
The reflecting pool has been exceptionally well handled. The monumental flight of steps above the terrace makes possible a view, from within the social rooms, at a higher angle

THE three projects presented herewith for a single church are not to be considered as successive improvements but as modifications to meet circumstances.

The first scheme, opposite page and above, was developed before the separation of the original architectural firm into two separate establishments. It shows the skilled Saarinen hand at large-scale architectural organization. Access is from the east (north is to the left in the plan as seen here) with separate entrances to large narthex and the two-story church school. The latter is logically lighted from the west (being used in the morning). The church itself gets the full morning light filtered through enormous windows. The transverse arrangement of the large social halls makes the large entrance space available to them also, and gives them a beautiful view across the reflecting pool.

In the second study by Saarinen, Swanson and Saarinen, seen below, economy brought many eliminations.

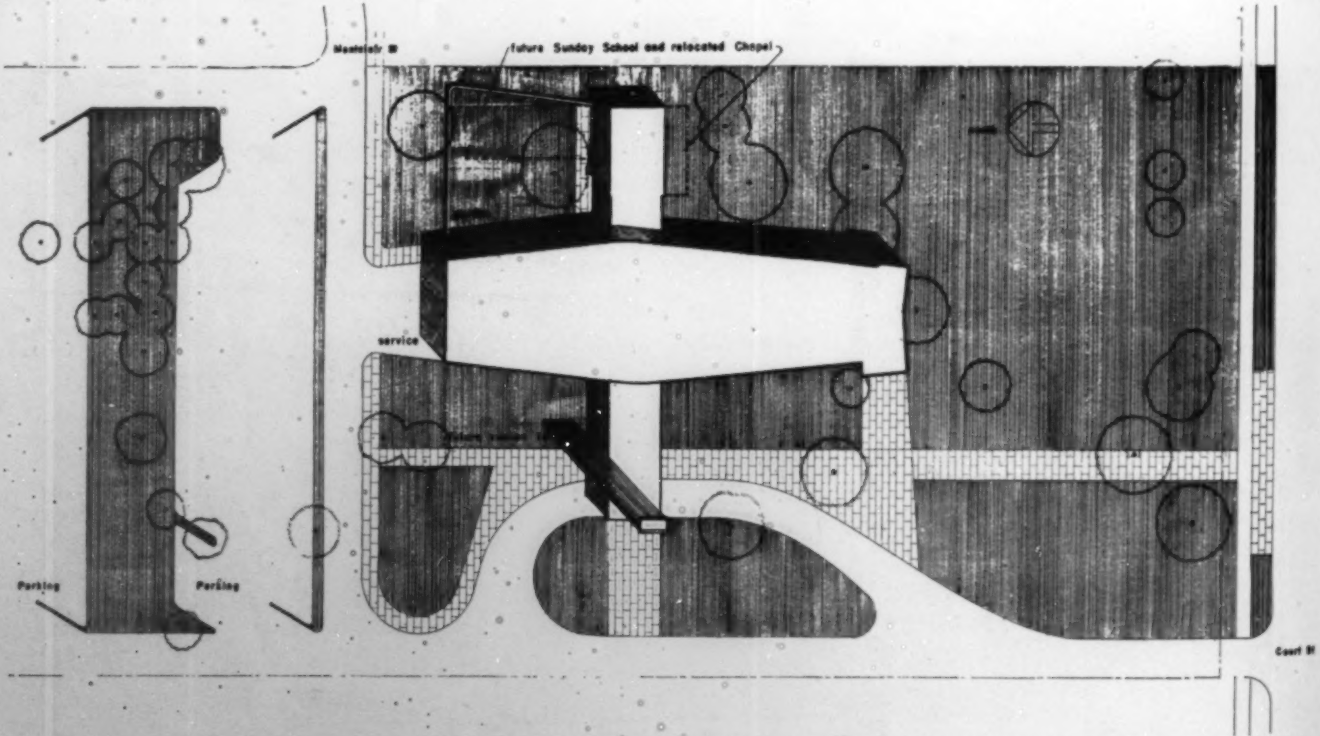


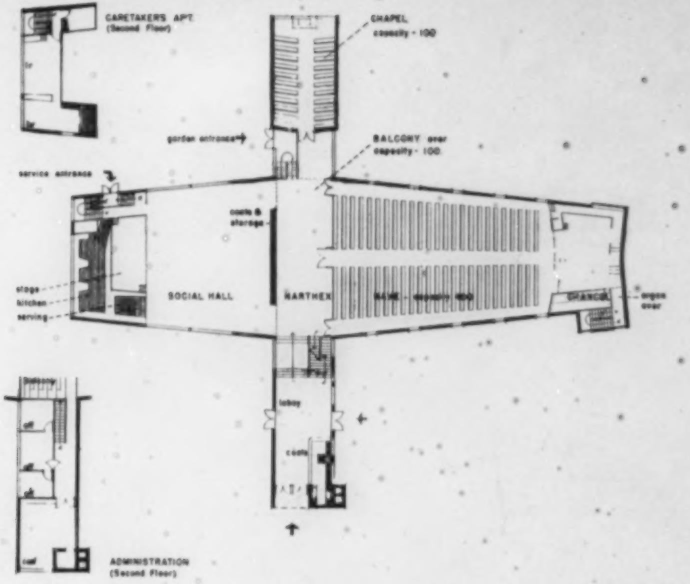


The rendering seen above presents the second study in an alternate version, still by Saarinen, Swanson and Saarinen. The main entrance is from the west.

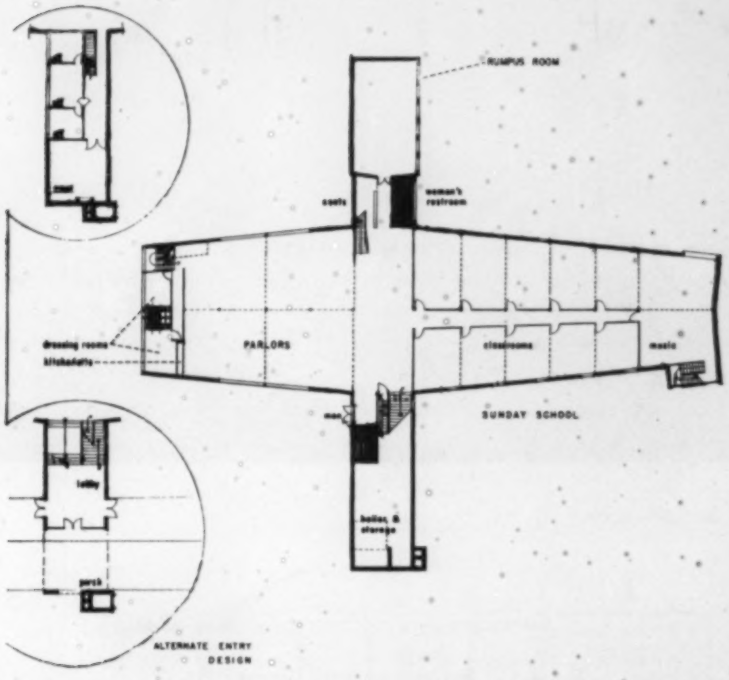
The latest project, by Robert Swanson Associates, keeps the west entrance and provides, to the north, for parking, usually badly neglected in church plans. The west wing, greatly reduced, occupies the bridge to the campanile, and is administrative, including the pastor's study. The social hall, directly opposite the nave, benefits from a joint storage partition, and its service entrance is logically located.

A mild criticism might be made of the classroom lighting which has been subordinated to continuity of effect in the tall lancet windows. Yet the project as a whole handsomely expresses the Protestant concept of a complete church institution.

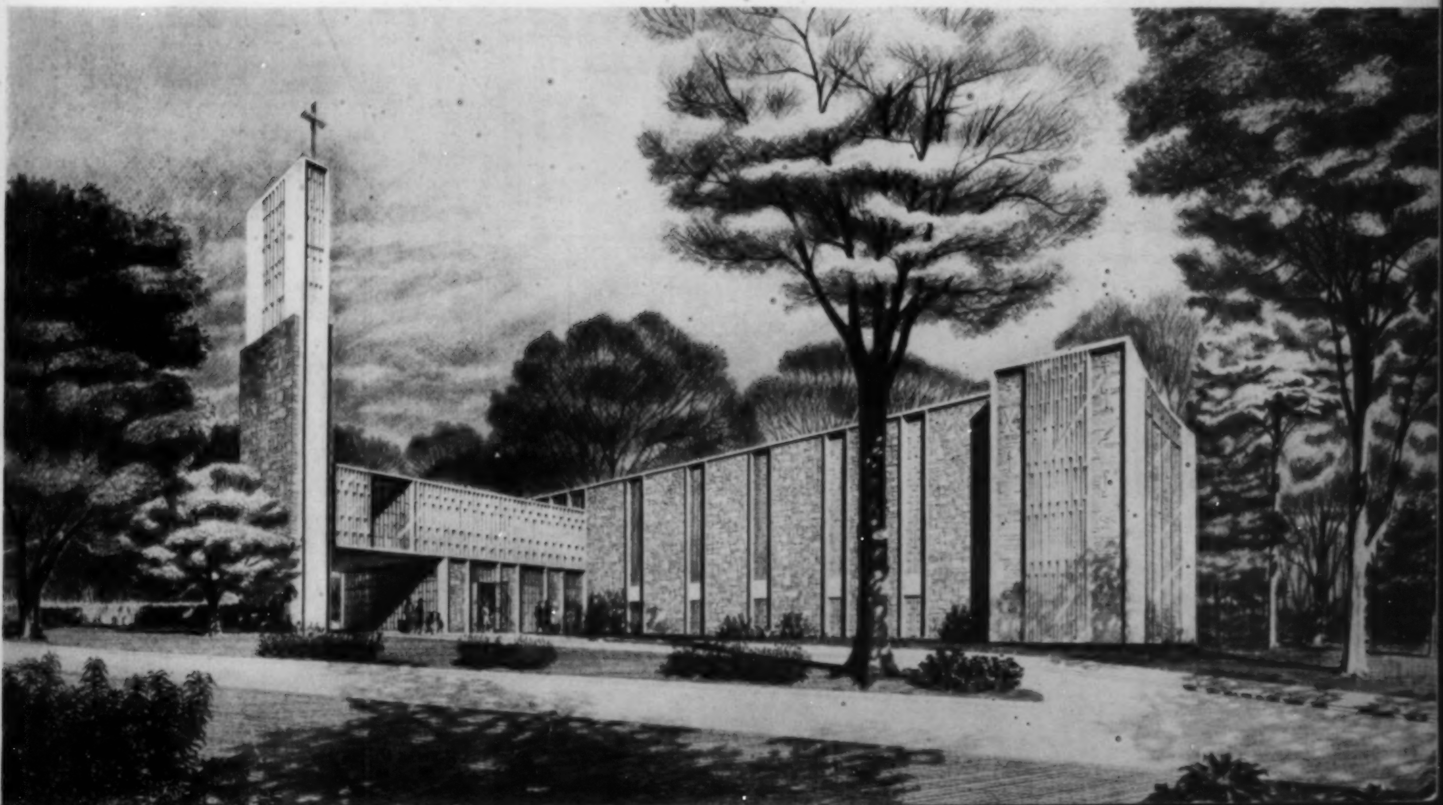


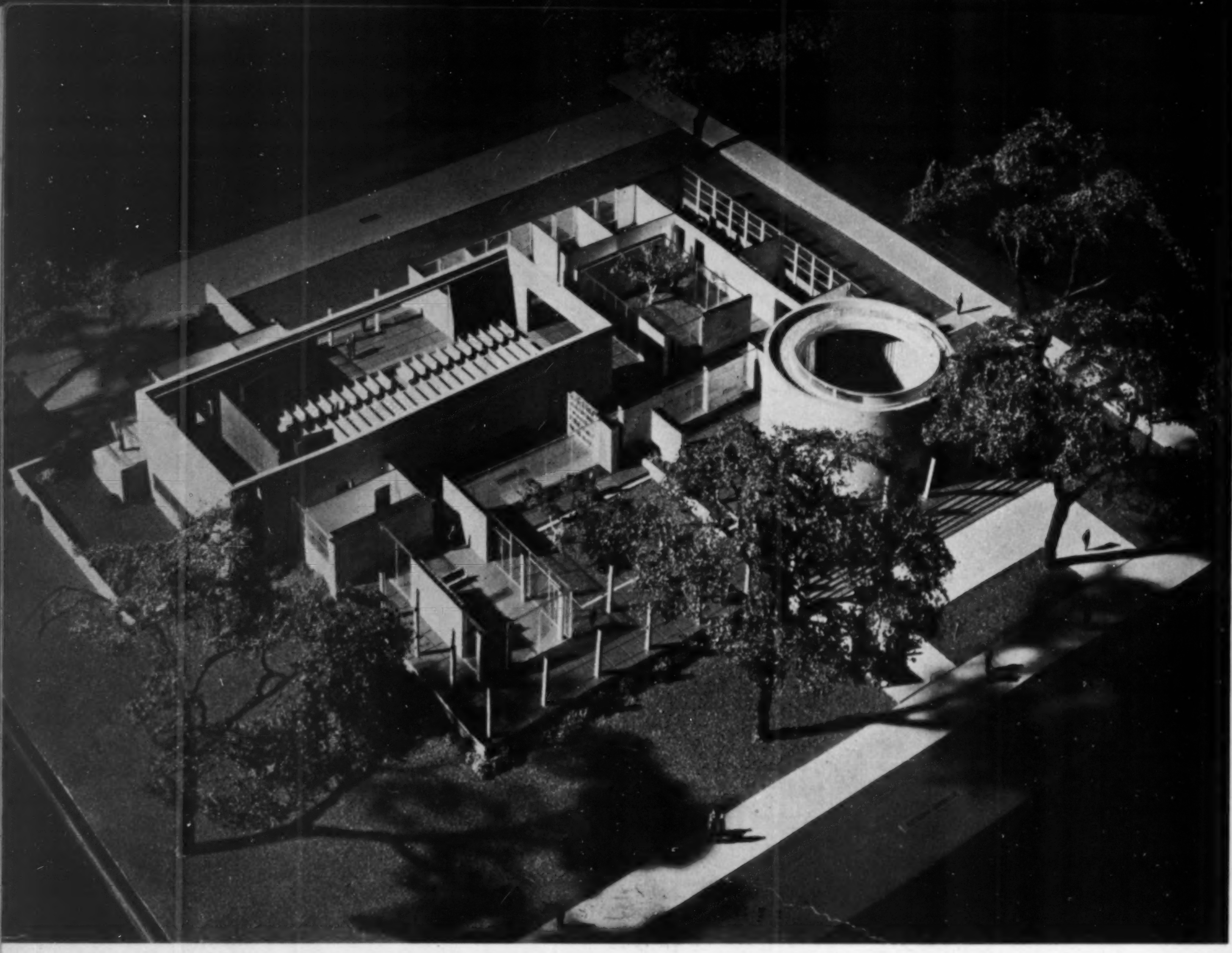

CARETAKERS APT.
(Second Floor)
CHAPEL
capacity - 100
garden entrance
BALCONY over
capacity - 100
service entrance
coats & storage
stage
kitchen
serving
SOCIAL HALL
NARTHEX
NAVE - capacity 400
CHANCEL
organ over
balcony
off
off
off
conf
lobby
coats
ADMINISTRATION
(Second Floor)

UPPER FLOOR

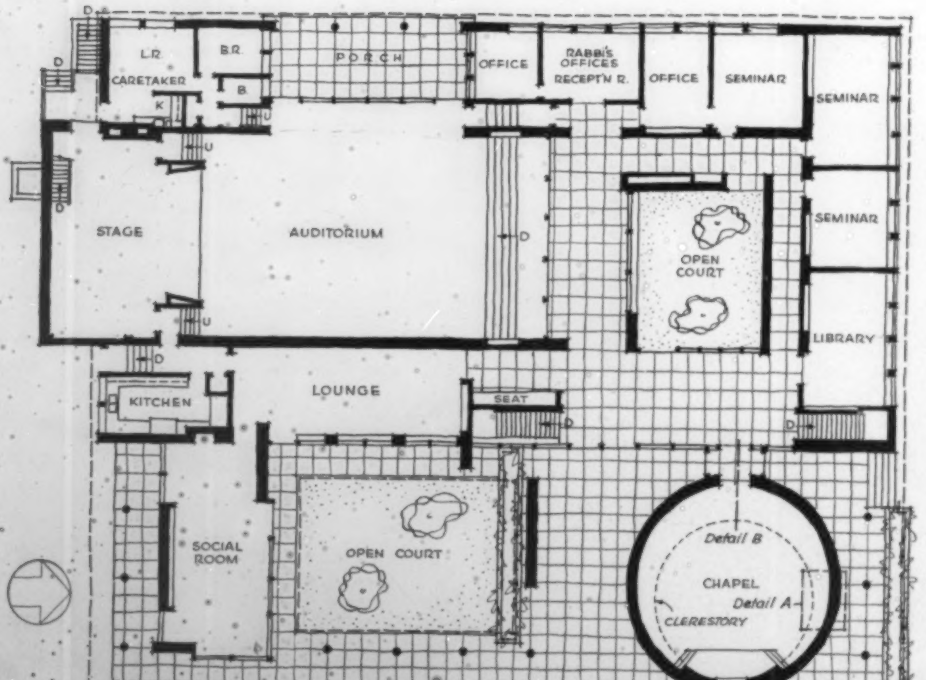

RUMPUS ROOM
coats
woman's restroom
dressing rooms
kitchenette
PARLORS
classrooms
music
men
SUNDAY SCHOOL
boiler & storage
lobby
porch
ALTERNATE ENTRY
DESIGN

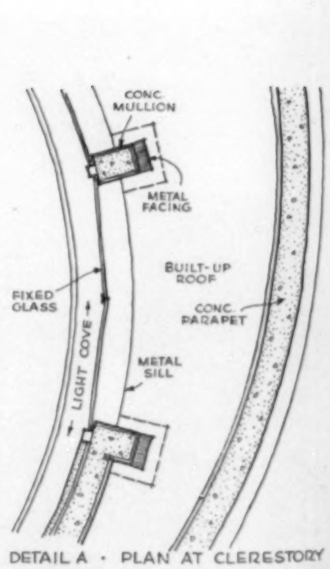
LOWER FLOOR



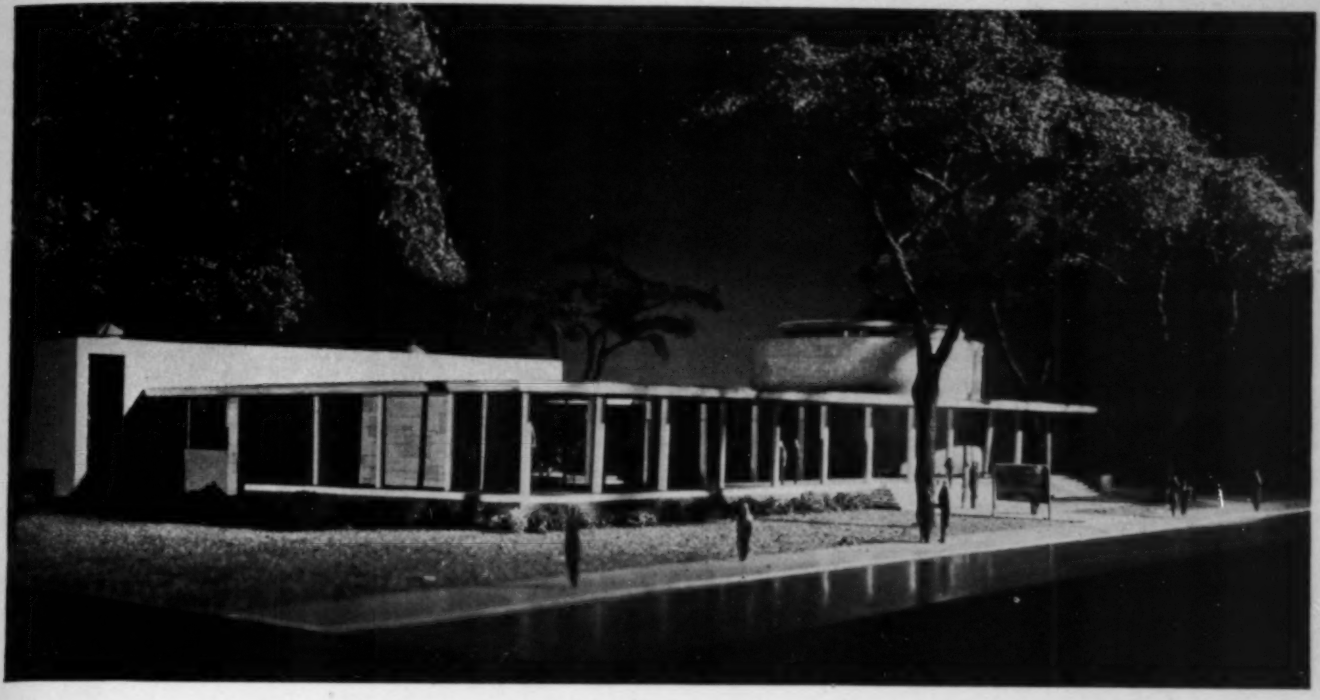


Hedrich-Blessing Photos


D
L.R.
CARETAKER
B.R.
B.
K
U
PORCH
OFFICE
RABBI's OFFICES RECEPT'N R.
OFFICE
SEMINAR
SEMINAR
STAGE
AUDITORIUM
D
OPEN COURT
SEMINAR
LIBRARY
KITCHEN
LOUNGE
SEAT
SOCIAL ROOM
OPEN COURT
Detail B
CHAPEL
Detail A
CLERESTORY
0
10
20
30
40
50


CONC. MULLION
METAL FACING
BUILT-UP ROOF
FIXED GLASS
LIGHT COVE
CONC. PARAPET
METAL SILL

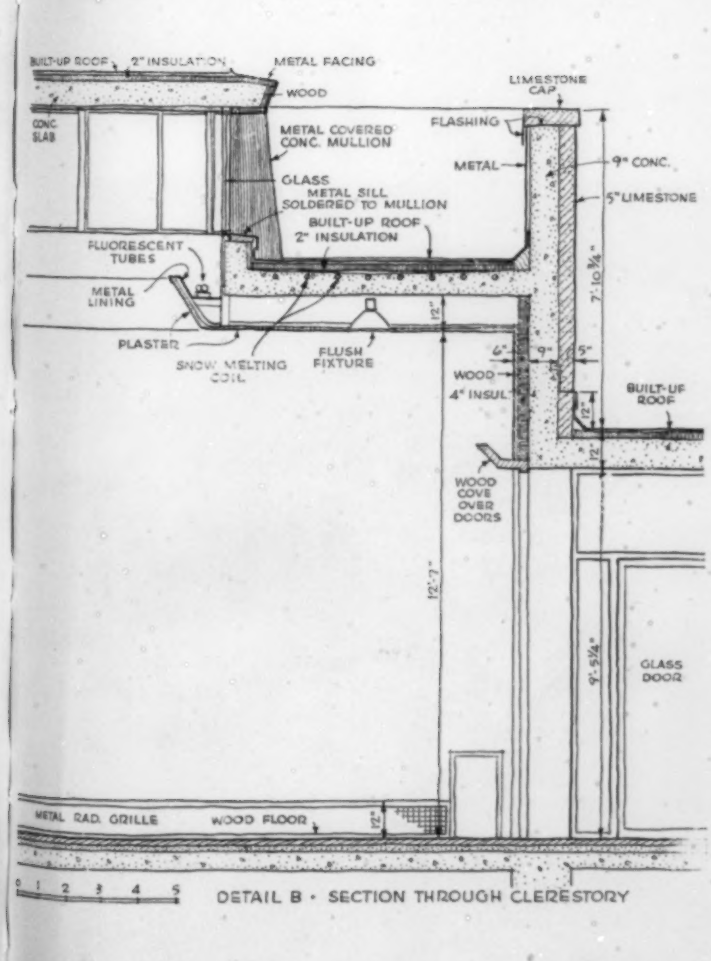
DETAIL A · PLAN AT CLERESTORY



STUDENT RELIGIOUS CENTER BASED ON SYNAGOGUE

Evanston Congregation Hillel, Northwestern University

Harrison & Abramovitz, Architects

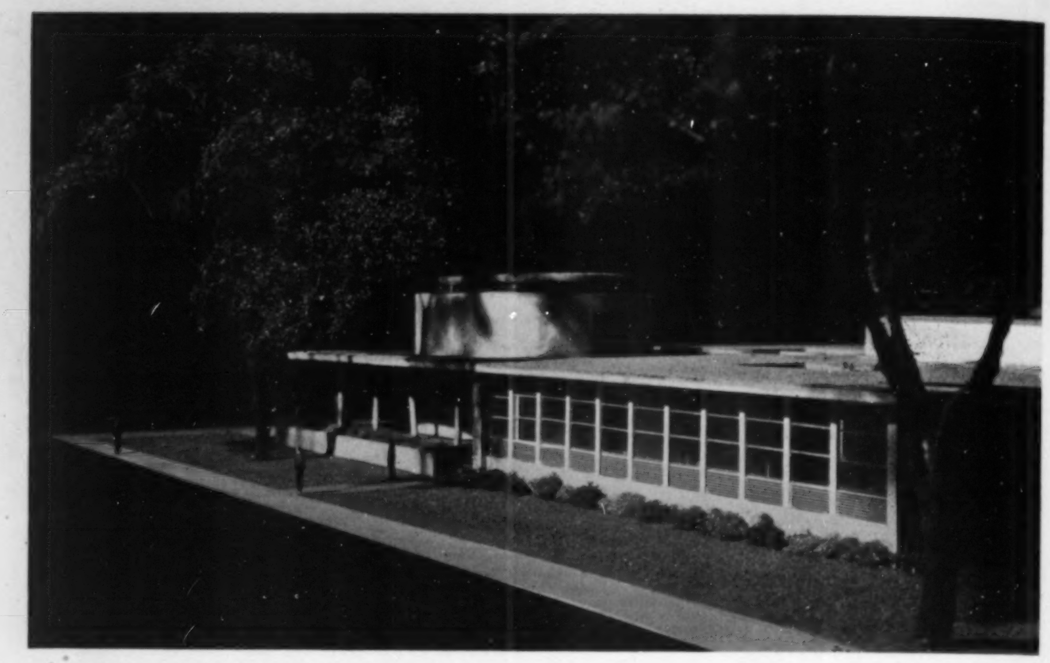

BUILT-UP ROOF
2" INSULATION
METAL FACING
WOOD
CONC. SLAB
METAL COVERED CONC. MULLION
GLASS
METAL SILL SOLDERED TO MULLION
BUILT-UP ROOF 2" INSULATION
FLUORESCENT TUBES
METAL LINING
PLASTER
SNOW MELTING COIL
FLUSH FIXTURE
LIMESTONE CAP
FLASHING
METAL
9" CONC.
5" LIMESTONE
7'-10¾"
12"
6"
9"
5"
WOOD
4" INSUL.
BUILT-UP ROOF
12"
12"
WOOD COVE OVER DOORS
12'-7"
9'-5¼"
GLASS DOOR
METAL RAD. GRILLE
WOOD FLOOR
12"
0 1 2 3 4 5

DETAIL B · SECTION THROUGH CLERESTORY

This building is to be erected to provide a center for the religious, cultural, and interfaith activities of the Jewish Community of Evanston, and for the students of Jewish faith at Northwestern University. The problem was to express, in planning and in use, the interrelationship of these three-fold activities.

The site has many tall trees which will contrast with the horizontal structure; and to the east there is a view to Lake Michigan (the main floor is raised three feet to take advantage of it).

The requirements included, 1. a chapel for 100 for normal religious services; 2. an auditorium for 300, for lectures, dramatics, social gatherings and recreation, and for use as a religious hall on high holidays; 3. a kitchen to be used for suppers and teas; 4. seminar rooms for the use of students and community; 5. library; 6. social rooms for quiet social uses; 7. an administrative suite; 8. caretaker's suite; 9. a courtyard or enclosed area to recall the biblical "Courtyards of the Lord," and to provide areas to be used in relation to religious festivals.

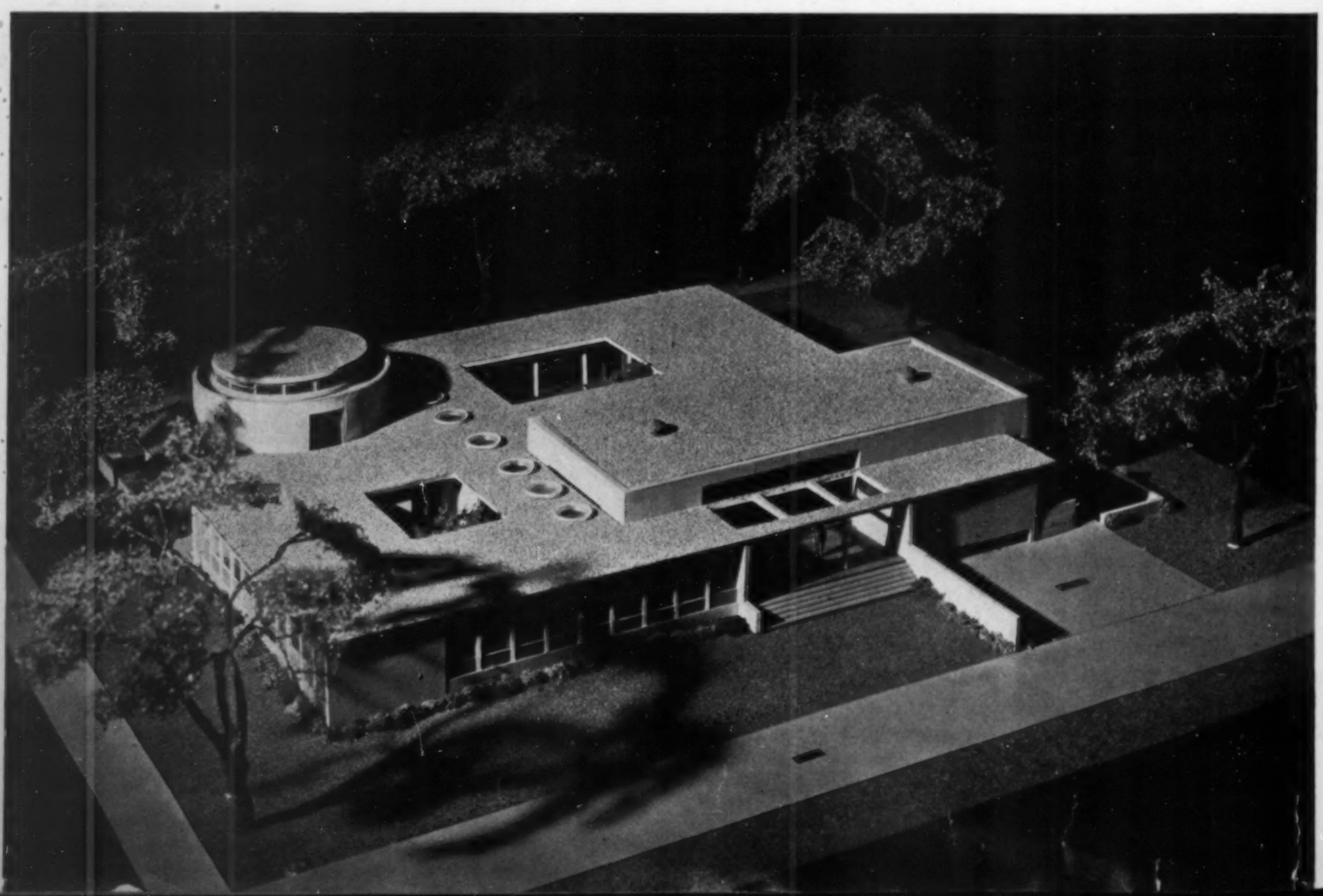


Hedrich-Blessing Photos

"It was desired that the passing public receive an impression of the use and character," say the architects. "To the individual coming to visit the Chapel, the openness of the plan and the visual sense of the various rooms placed about the court would accent the joint activities of the social and educational; to those interested in the social aspects, a realization of the religious program would be physically manifest; and to the student attending seminars or auditorium, no matter what faith, a sense of the other aspects of the building would be conveyed in a frank and open manner devoid of mystification or seclusion.

"The plan developed with the elements disposed around the courts, producing various qualities of light; and the Chapel placed to the east and rising through and above the roof gives an added significance to the building from the main approaches."

In the view of the architects' model, above, is seen the emphasis on the chapel; below, top-lighted passage and courts



ARCHITECTURAL ENGINEERING

TECHNICAL NEWS AND RESEARCH

METHOD FOR CALCULATING INSULATION ECONOMIES

Developed by HHFA Technical Staff

To make possible fairly precise calculation of fuel savings resulting from insulation, engineers of the Housing and Home Finance Agency have developed a method of analyzing insulation costs in relation to fuel economies.* Based on the thought that, once minimum comfort conditions are satisfied, additional insulation should pay for itself, the method is intended to permit comparison of various insulation proposals in monetary terms.

The analysis starts with consideration of wall and floor surface temperatures from the standpoint of comfort, fixing minimum and optimum temperatures that ought to be maintained. If any insulation is required to maintain those temperatures, it is considered necessary without regard for costs. Beyond that, further insulation is weighed in terms of fuel savings.

Surface Temperatures

Usually when inside surface temperatures are low during winter heating, an excess of bodily heat is lost by the occupants (through radiation or conduction) to the cold surfaces.

The body area of an occupant exposed to the ceiling is smaller than that to the walls and floor; therefore, the ceiling temperature need not be considered for comfort requirements. Moreover, the ceiling is further eliminated as a source of discomfort because of its distance from the occupant and also because the ceiling surface is usually warm from the heated air at the top of the room, regardless of insulation.

Without ceiling or roof insulation, however, transmission losses in winter and solar gain in summer might be excessive. The decision whether or not to insulate here has to be based on the degree of summer comfort demanded and on an analysis of fuel economy.

Wall Temperatures

Ordinary frame walls with wood siding, wood sheathing, 2 in. by 4 in. studs and plaster finish have been commonly used in areas where the outdoor air temperature drops to 0° F. The rate of heat transfer through these walls with 70° F inside air temperature and 0° F outside air temperature results in an inside surface temperature of 59° F. Although this is not a minimum wall temperature based on physiological data, common practice and consumer acceptance indicate that this figure can be assumed for minimum comfort. Federal housing authorities recommend 65° F as optimum.

Single-glazed windows, with an inside surface temperature about midway between indoor and outdoor air temperatures, not only cause a chilling effect when occupants are near the surface but also induce undesirable drafts. Most doors have high transmission losses and, like single pane glass, lower the overall average inside surface temperature.

When large window and door areas exist, either wall surface temperatures must be elevated by adding insulation there or else thermal protection must be provided by using double-glazed glass or storm windows and storm doors to compensate for the increased exposed area.

Floor Temperatures

Where floors are over basements or heated spaces, the surface temperature is usually satisfactory, but when they are over unheated spaces or in direct contact with the ground, thermal protection might be needed.

Floors over crawl spaces lose heat through the entire area and should be insulated accordingly. Concrete slabs on the ground are best insulated according to suggestions of the Housing and Home Finance Agency (see ARCHITECTURAL RECORD, Jan., 1948).

The *minimum* standard temperature for floors is based on the accepted use of wood floor on wood subflooring over well-ventilated crawl spaces. Again using 0° F outside air and 70° F inside air design temperatures, the minimum temperature for this type floor is 60° F.

"U" Value

Since the inside surface temperature and heat transfer of a section depend on the type, thickness and arrangement of materials used as well as inside and outside air temperatures, the minimum and optimum temperatures can be translated into a heat transmission factor "U." This represents the heat transfer in Btu per hour per square foot of assembled structural section, per degree Fahrenheit temperature difference between inside and outside air.

Table 1 lists "U" values for walls from the minimum temperature (59°), through the optimum (65° to 68°), and for the minimum floor temperature (60°) with the range of outdoor design temperatures from minus 40° to plus 30°.

The "U" for any combination can be calculated; however, the values for many composite arrangements can be found in published guides (see ARCHITECTURAL RECORD, Nov., 1936 and the *Guide of the American Society of Heating and Ventilating Engineers, 1947*).

TABLE 1 — "U" Factors Which Will Produce Minimum and Optimum Surface Temperatures (all temperatures, °F)

Outdoor Design Temp.	Walls				Floors
	Minimum 59	63	Optimum 65	68	Minimum 60*
+30	0.45	0.30	0.20	0.10	0.60
20	0.36	0.24	0.16	0.08	0.48
10	0.30	0.20	0.13	0.07	0.40
0	0.26	0.17	0.11	0.06	0.34
−10	0.23	0.15	0.10	0.05	0.30
20	0.20	0.13	0.09	0.044	0.27
30	0.18	0.12	0.08	0.040	0.24
40	0.16	0.11	0.07	0.036	0.22

*For floors over unheated, well-ventilated spaces.

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*"Insulation — Where amd How Much," Laurence Shuman, Mechanical Engineering Adviser Technical Staff, HHFA Technical Bulletin No. 3, March 1948.

Economic Analysis

Once comfort conditions are met, an intelligent selection can be made from the many methods for adding thermal protection to any building where the costs are known. The initial cost of any structure is not the only one that concerns owners or tenants. Operation economies may be sufficient to offset an additional initial expenditure and any interest charges. The selection of insulation beyond that necessary to provide minimum comfort conditions should be based on economic analysis and such additional insulation methods should be capable of repaying their costs.

Since fuel prices and construction costs vary considerably over the country, a method has been developed for expressing fuel savings in terms of fuel units and areas of the building elements involved. When several construction assemblies are possible, it is relatively simple to calculate the annual cost of each. With these costs indicating the annual saving of one construction over another, the designer can determine if an additional first cost of one will be adequately repaid in fuel savings.

It is also possible to evaluate the savings resulting from thermal protection added to existing structures. Here, however, it is necessary to add a note of caution: where a building element or section has been in use, the addition of thermal protection will change the temperature conditions which existed in the element. This addition lowers temperatures in those parts of the element toward the outer side and raises temperatures in the parts on the inner side.

Water vapor passing through the element from inside the house may condense on the cold surfaces unless means have been provided to effectively reduce excess vapor flow by installation of a vapor barrier or by proper ventilation of the element.

Fuel Requirements

When the "U" value of any building element or section is known, the fuel units lost through it per year can be obtained from the curves on the chart, page 143. These curves indicate the approximate number of fuel units required annually by each square foot of surface for various efficiencies of heating systems and for the number of degree days in the heating season, when the "U" factor is 1.00. Multiplying this figure by the actual "U" factor will give the approximate number of fuel units required annually per square foot for the particular case.

The curves shown on the chart have been derived from formulas published in the *Guide of the American Society of Heating and Ventilating Engineers, 1947*, with some modification to indicate the additional fuel requirements in those sections of the country where the heating load is light because of reduced efficiencies at low loads.

Amounts of fuel obtained from the chart are correct within about 5 per cent for the average heating season. The chart takes into account a night cutback in inside temperature to 55° F for eight hours. If no night time reduction in house temperatures is contemplated, an additional 7 per cent should be added to the fuel consumption.

Use of Chart

To use the chart on page 143, first determine the number of degree days per year for the locality where the house is or will be built. The annual degree day figure is a measure of the seasonal heating load and can be obtained from the U. S. Weather Bureau or from local fuel dealers. Table 2 gives a representative list for major cities as given in the 1947 A.S.H.V.E. Guide.

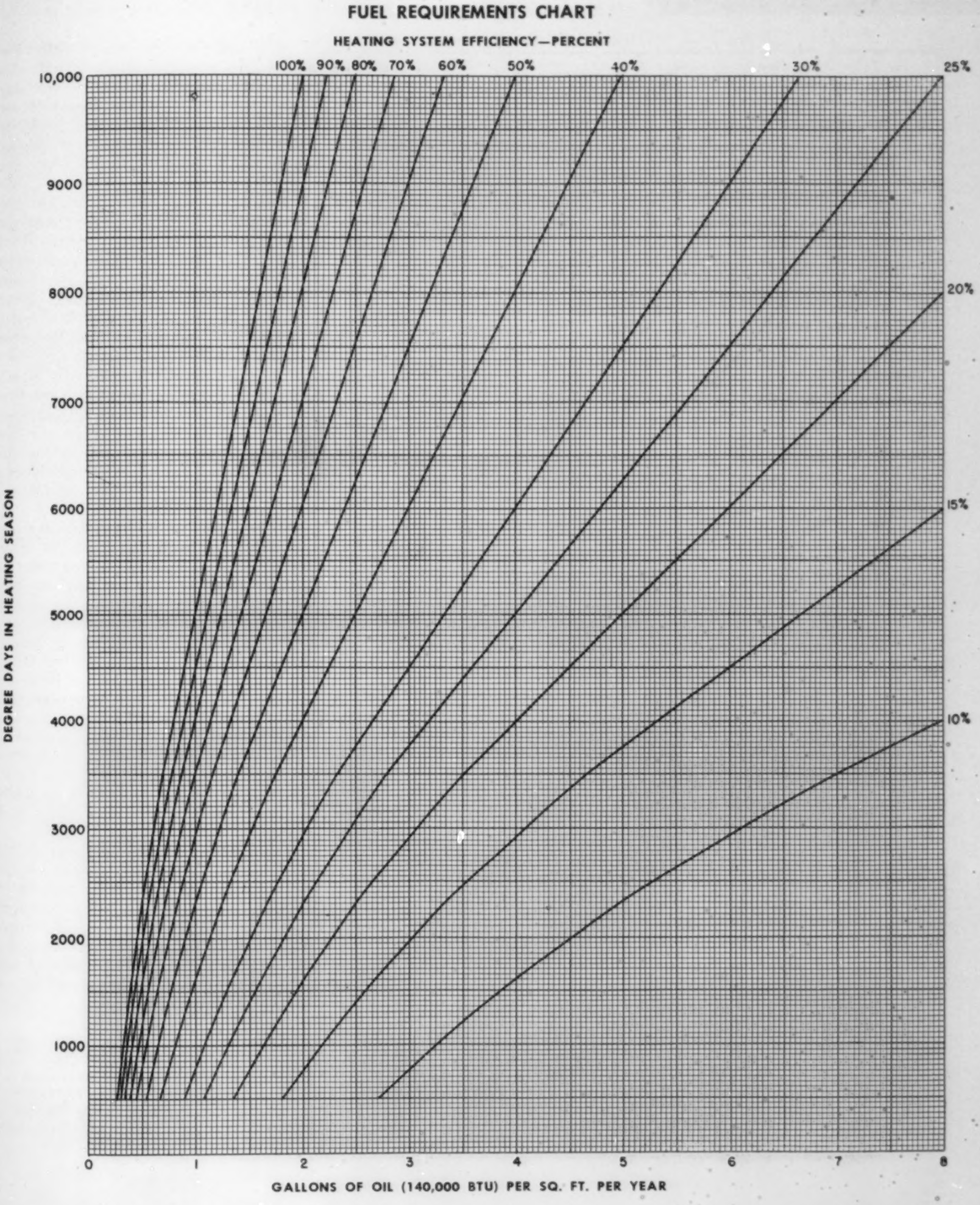
Next, select the appropriate heating efficiency curve. The efficiency selected should represent that part of the heat in the fuel as purchased which is useful in heating the entire dwelling. This efficiency is affected by variations in construction detail and quality, heating plant design and quality, accuracy of installation, operating control methods and apparatus, and by living habits. Table 3 lists some efficiencies suggested for use with the chart.

Having selected the efficiency and the degree days, locate the degree day figure on the vertical scale of the chart. Proceed horizontally to the selected efficiency curve and from this point drop vertically to the horizontal fuel scale. The reading on this scale gives the annual number of gallons of fuel oil (at 140,000 Btu per gallon) required for each square foot of building element or section where "U" equals 1.00. (Conversion factors for other fuels are given in Table 4.)

The fuel required per square foot can be multiplied by the area and "U" factor for any element or section to obtain annual fuel consumption requirements for each such element or section. Or, it could be multiplied by the difference between the "U" factors of any two possible constructions to determine the annual difference in fuel requirements for the two possibilities.

TABLE 2. Normal Degree-Days for Cities in the United States, Canada and Newfoundland

State	City	Total
Ala.	Birmingham	2618
	Mobile	1567
Ariz.	Phoenix	1446
Ark.	Fort Smith	3230
	Little Rock	3005
Calif.	Los Angeles	1390
	San Francisco	3143
Colo.	Denver	5863
	Grand Junction	5647
Conn.	New Haven	5879
D. C.	Washington	4598
Fla.	Jacksonville	1161
Ga.	Atlanta	3002
	Savannah	1647
Idaho	Boise	5659
Ill.	Chicago	6287
	Springfield	5463
Ind.	Evansville	4387
	Indianapolis	5487
Iowa	Des Moines	6391
	Sioux City	6909
Kan.	Dodge City	5077
	Topeka	5101
Ky	Lexington	4791
	Louisville	4428
La	New Orleans	1208
	Shreveport	2127
Me.	Eastport	8451
	Portland	7338
Md.	Baltimore	4522
Mass.	Boston	5943
Mich.	Detroit	6580
	Marquette	8786
Minn.	Duluth	9766
	Minneapolis	7989
Miss.	Vicksburg	2073
Mo.	Kansas City	4984
	St. Louis	4610
	Springfield	4567
Mont.	Havre	8474
Neb.	Lincoln	6010
	Omaha	6102
Nev.	Winnemucca	6371
N. H.	Concord	7391
N. J.	Atlantic City	5049
N. M.	Santa Fe	6124
N. Y.	Albany	6658
	Buffalo	6935
	New York	5306
N. C.	Raleigh	3281
	Wilmington	2432
N. D.	Bismarck	8969
Ohio	Cincinnati	5013
	Cleveland	6171
	Columbus	5536
Okla	Oklahoma City	3698
Ore.	Baker	7219
	Portland	4379
Pa.	Philadelphia	4749
	Pittsburgh	5466
S. C.	Charleston	1870
	Columbia	2504
S. D.	Huron	7997
	Rapid City	7225
Tenn.	Knoxville	3665
	Memphis	3078
	Nashville	3620
Tex.	El Paso	2538
	Fort Worth	2356
	Houston	1360
	San Antonio	1424
Utah	Modena	6605
	Salt Lake City	5637
Vt.	Burlington	7930
Va.	Lynchburg	4082
	Norfolk	3385
	Richmond	3944
Wash.	Seattle	4864
	Spokane	6305
W. Va.	Elkins	5814
	Parkersburg	5091
Wis.	Green Bay	7956
	LaCrosse	7442
	Milwaukee	7086
Wyo.	Cheyenne	7549
	Lander	8237
Alta.	Calgary	9,927
	Edmonton	10,289
B. C.	Vancouver	5,755
Man.	Winnipeg	11,130
N. B.	Moncton	8,886
N. S.	Halifax	7,682
Ont.	Ottawa	8,674
	Port Arthur	10,488
	Toronto	7,715
P. E. I.	Charlottetown	8,384
Que.	Montreal	8,341
	Quebec	9,467
Sask.	Saskatoon	11,493
Newf.	St. John's	8,919



FUEL REQUIREMENTS CHART

Cost Analysis

Having determined the difference in fuel consumption of any two constructions, the cost of one construction can be compared with the other. If desirable, the installation cost of each can be set up as a yearly charge covering interest on the first cost and repayment of the principal. Adding the annual excess fuel cost to the yearly charge of the construction having the greater heat loss will give a close approximation of the difference in annual cost.

The following examples have been taken from the HHFA paper, "Insulation — Where and How Much."

"Case 1. A house is to be constructed in Washington, D. C. The walls are to be 4 in. common brick veneer, wood sheathing on 2 in. by 4 in. studs with plaster on plaster lath finish. The heat-

TABLE 3 — Heating System Efficiency

Type of Fuel and Firing	Type of Heating Apparatus			
	Boilers	Warm Air Furnaces		Overflow Heaters
	Steam or Hot Water	Forced	Gravity	Space Heaters
Gas — Apparatus designed for gas	80%	70 to 80%	70%	70%
Conversion burners	70	60 to 70	60	—
Oil — Apparatus designed for oil	75	65 to 75	65	60
Conversion burners	70	60 to 70	60	—
Anthracite or Coke				
Hand fired — No controls	60	50 to 60	50	40
Hand fired — With "	70	60 to 70	60	—
Stoker fired	75	65 to 75	65	—
Bituminous Coal				
Hand fired — No controls	50	40 to 50	40	40
Hand fired — With "	60	50 to 60	50	—
Stoker fired	65	55 to 65	55	—

ing system is to be automatic forced warm air, burning oil at 12.5¢ per gallon. Would it be advantageous to substitute ½ in. insulation board lath for the plaster base at an additional first cost of 2.0¢ per square foot of wall?"

"*Solution:* Degree days for Washington
(Table 2) 4598
Heating plant efficiency
(Table 3) 70%

"From chart (page 143) read across from 4600 degree days to 70 per cent curve and down to fuel scale. Reading on scale is 1.32 gal. per sq. ft. per year where 'U' = 1.00.

"The 'U' factor for the wall as designed is 0.25 while the 'U' factor for the wall with insulation board lath is 0.19. The difference in favor of the latter is therefore 0.06.

"Multiplying 0.06 by 1.32 gal. by 12.5¢ per gal. gives 1.0¢ per sq. ft. saved each year by the wall using the insulation board lath.

"Since the added cost of the second design is 2¢, the fuel saving would pay for the investment in about two years, after which the saving of 1¢ per sq. ft. would continue for the life of the wall."

"CASE 2. In the same circumstances as Case 1, would it be economically wise to install 2 in. of flexible insulation at 11¢ per sq. ft. retaining the plaster on plaster lath finish?"

"*Solution:* The 'U' factor for this wall with 2 in. flexible insulation would be .09 whereas the 'U' factor for the uninsulated wall is 0.25. The reduction by the insulation is therefore 0.16.

"The fuel factor from the chart remains 1.32 gal., which, when multiplied by 0.16 and by 12.5¢ per gal. gives 2.64¢ per sq. ft. of wall surface per season as the saving by using the 2 in. flexible insulation.

"If we assume the structure to be an average small house, 26 by 32 ft., with normal window arrangements, the net wall surface would be approximately 800 sq. ft. The installed cost of the insulation would be 800 × 11¢ or $88.00.

"The economy of the insulation could be expressed in terms of dollar savings per year, as if the cost of the insulation were included in the original capital cost of the house and amortized over a 25-year mortgage period.

"The cost of the $88.00 investment under these conditions would be about $5.58 per year to repay capital and interest at 4 per cent. Fuel savings would be 800 times 2.64¢ or $21.12 per year. The net saving would be $21.12 minus $5.58 or $15.54 per year each year during the life of the mortgage, provided that fuel costs remain practically constant. Any increase in fuel cost would increase the net saving."

How do the insulation methods in Cases 1 and 2 compare? "In Case 1, it was shown that a saving of 1¢ per sq. ft. of wall per season was available. For an average of 800 sq. ft. of wall, this would amount to $8.00 per year due to the use of insulation board plaster base. In Case 2, the saving was 2.64¢ per sq. ft. of wall or $21.12 per season, due to the use of 2 in. flexible insulation.

"These figures show that Case 2 will save $21.12 less $8.00 or $12.12 per year more than Case 1, while the added cost of the 2 in. flexible insulation is about $72. The added expense therefore is made up in about six years, after which the insulation treatment of Case 2 will show an annual saving of $21.12 over the uninsulated wall or $12.12 over the insulation treatment of Case 1.

"The uninsulated wall at 'U' equals 0.25 meets the minimum requirement for comfort in the Washington, D. C., area, but this economic analysis gives a base for determining the relative value of the two proposed methods for providing a greater degree of comfort and for conservation of fuel."

In setting up the economic analysis, savings on such cost items as maintenance and repair, power for operating equipment or ash handling expenses have not been considered; the possible economies have not been included resulting from reduced sizes of heating equipment made possible by exceptional heat loss savings from insulating materials. At the same time costs have not been considered for louvers, ventilators, fans and associated equipment if needed to prevent condensation when insulation is applied. The method is intended as a guide only and the added refinement of such determinations is probably very small.

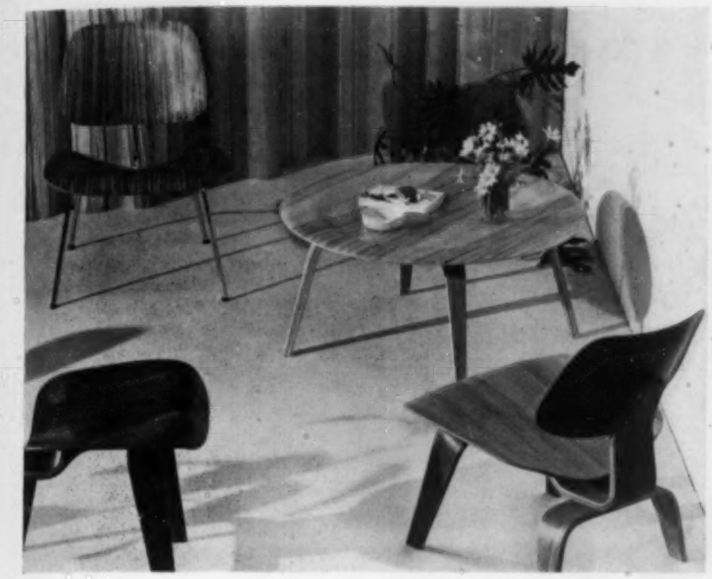
By using this suggested analysis, the architect, builder, owner or tenant can obtain a quick check on the comparative value of various insulating treatments which might produce minimum or optimum comfort conditions. The cost analysis will indicate where and how much insulation should be used for any particular case.

TABLE 4 — Conversion Factors
To convert gallons of fuel oil to other fuels multiply by the following factors:

	Factors	Heat Content*
For cu. ft. of gas	127	1100 Btu per cu. ft.
	140	1000
	155	900
	175	800
	200	700
	233	600
	280	500
For lbs. of coal	10.0	14,000 Btu per lb.
	10.8	13,000
	11.7	12,000
	12.7	11,000
	14.0	10,000
For therms	1.4	(one therm equals 100,000 Btu)

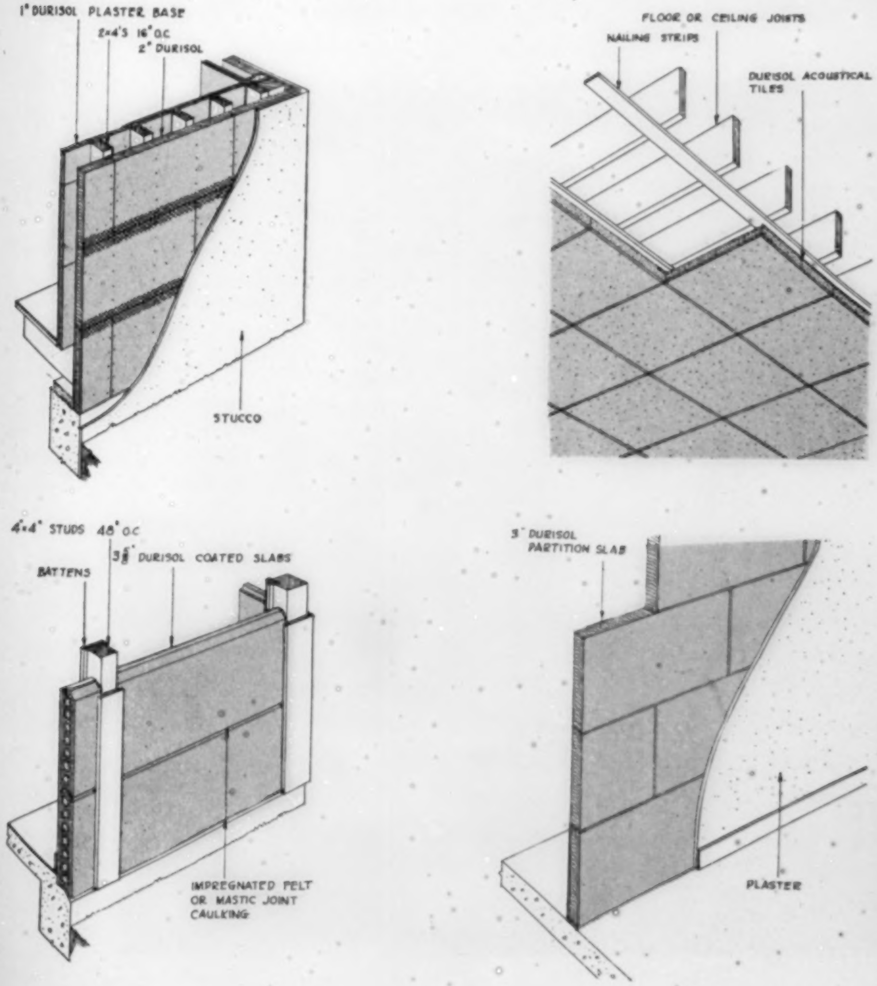
**These values may be obtained from the local gas company or coal dealer.*

PRODUCTS for Better Building



Above: plywood furniture designed for comfort, practicability and beauty

Below and lower right: applications of Durisol, a new building material made of cement and chemically treated wood shavings, pressure formed into blocks and panels



PLYWOOD FURNITURE

Molded plywood furniture has been designed by Charles Eames to offer maximum comfort, practicability and beauty. Being manufactured now are dining tables, dining chairs, lounge chairs, coffee tables and screens.

The furniture is made of resin-impregnated plywood, which is molded under pressure to make the finish an integral part of the wood. Permanent joinings are radio-frequency welded for long life.

Designed from the outset to provide comfort, the chairs are molded to conform to the contours of the human body. An entirely new concept, "shock mount joinings," permits the chairs to flex during changes in body position. The chairs are designed in dining and lounge heights. Both are available with either plywood or chromium-plated legs.

The dining table with walnut top and molded plywood legs, measures 34 in. by 54 in. Special multiple-finishing processes are said to provide durable, resistant finishes. The detachable legs are precision-joined to the top to eliminate wobbling.

The folding screen, made of curved, molded plywood panels, attached with flexible fabric strips, is decorative both in its form and in its use of rare and interesting woods. It folds to compactness for storage. The screen is 5 ft. 8 in. high, extends to 60 in. Herman Miller Furniture Co., Zeeland, Mich.

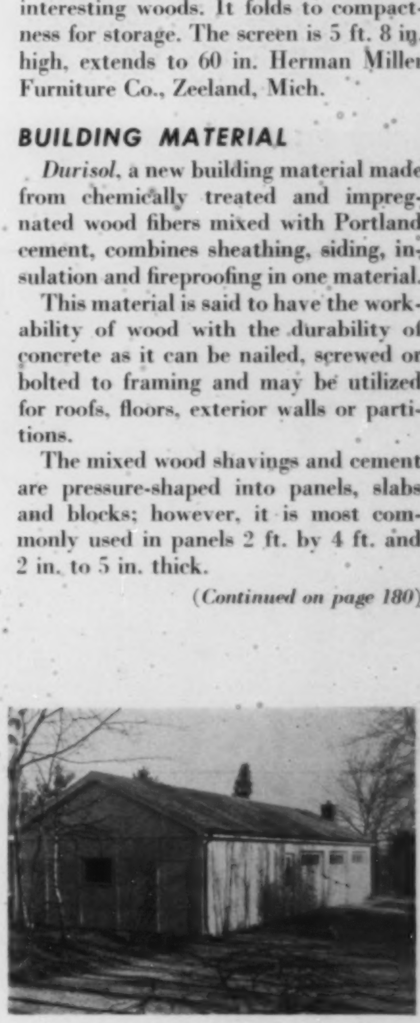
BUILDING MATERIAL

Durisol, a new building material made from chemically treated and impregnated wood fibers mixed with Portland cement, combines sheathing, siding, insulation and fireproofing in one material.

This material is said to have the workability of wood with the durability of concrete as it can be nailed, screwed or bolted to framing and may be utilized for roofs, floors, exterior walls or partitions.

The mixed wood shavings and cement are pressure-shaped into panels, slabs and blocks; however, it is most commonly used in panels 2 ft. by 4 ft. and 2 in. to 5 in. thick.

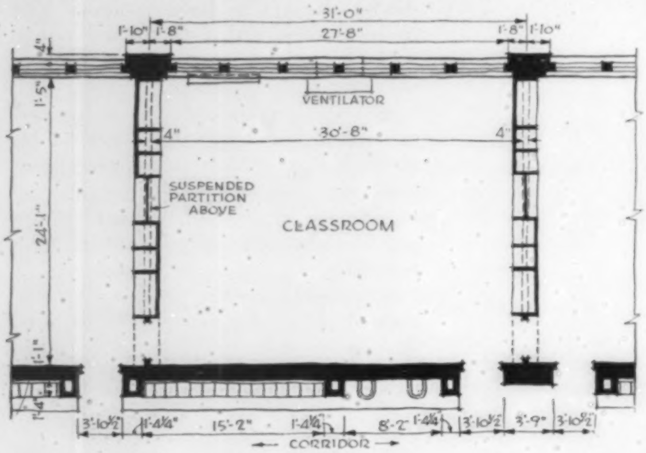
(*Continued on page 180*)

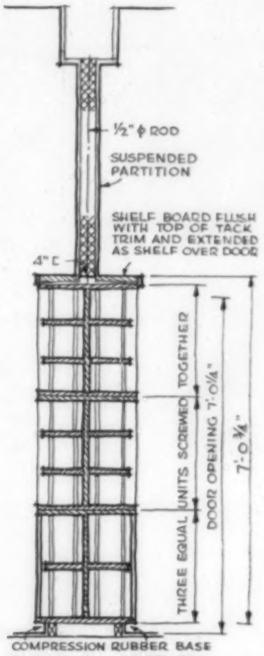


SCHOOL CLASSROOM DETAILS

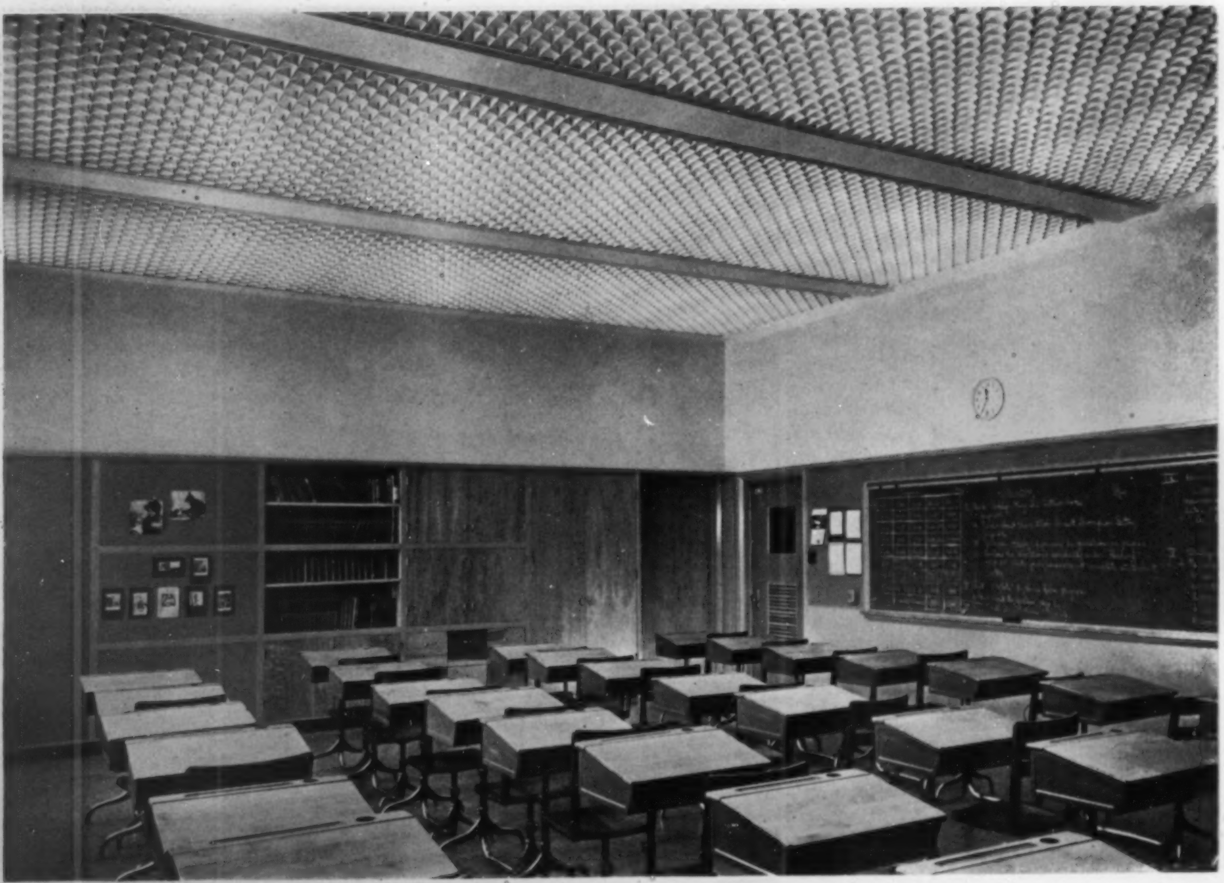
Multiple Unit Storage Cabinets Used as Partition Wall; Perkins & Will, Architects

Three years ago these partition-wall-cabinets were published in the idea stage (ARCHITECTURAL RECORD, June, 1945); here they are as installed in an addition to a school in Park Ridge, Ill. As the photographs show, they very neatly package the several varieties of storage spaces required for an elementary school classroom, including: supplies and equipment, records, books, tools, toys, and there are also closets for clothing.


31'-0"
1'-10"
1'-8"
27'-8"
1'-8"
1'-10"
4"
1'-5"
VENTILATOR
4"
30'-8"
4"
SUSPENDED
PARTITION
ABOVE
CLASSROOM
24'-1"
1'-1"
1'-4"
3'-10½"
1'-4¼"
15'-2"
1'-4¼"
8'-2"
1'-4¼"
3'-10½"
3'-9"
3'-10½"
CORRIDOR

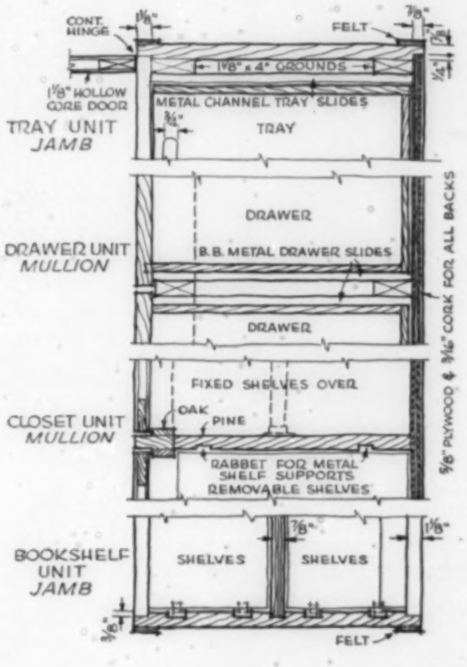

½" ϕ ROD
SUSPENDED
PARTITION
SHELF BOARD FLUSH
WITH TOP OF TACK
TRIM AND EXTENDED
AS SHELF OVER DOOR
4" ⊏
THREE EQUAL UNITS SCREWED TOGETHER
DOOR OPENING 7'-0¼"
7'-0¾"
COMPRESSION RUBBER BASE

PARTITION SECTION

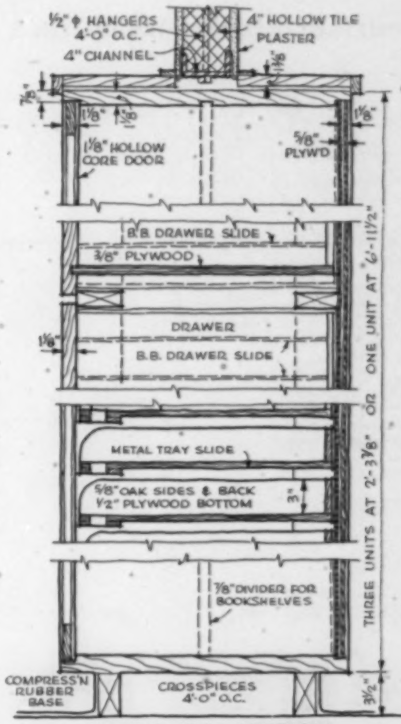


SCHOOL CLASSROOM DETAILS

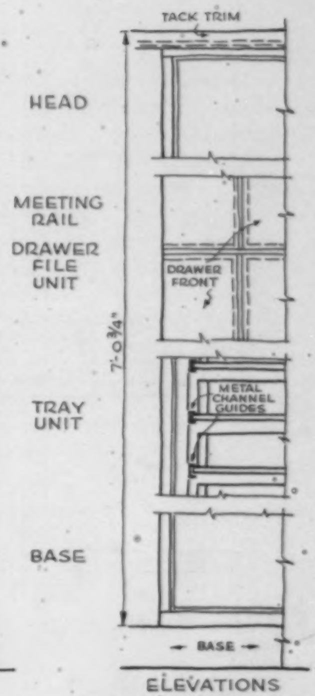
Perkins & Will, Architects


CONT. HINGE
1⅛"
7/8"
FELT
1⅛" x 4" GROUNDS
1⅛" HOLLOW CORE DOOR
METAL CHANNEL TRAY SLIDES
¾"
TRAY
TRAY UNIT
JAMB
DRAWER
DRAWER UNIT
MULLION
B.B. METAL DRAWER SLIDES
DRAWER
FIXED SHELVES OVER
OAK
PINE
CLOSET UNIT
MULLION
RABBET FOR METAL SHELF SUPPORTS
REMOVABLE SHELVES
5/8" PLYWOOD & 3/16" CORK FOR ALL BACKS
BOOKSHELF UNIT
JAMB
SHELVES
SHELVES
7/8"
1⅛"
3/8"
FELT

COMPOSITE PLAN

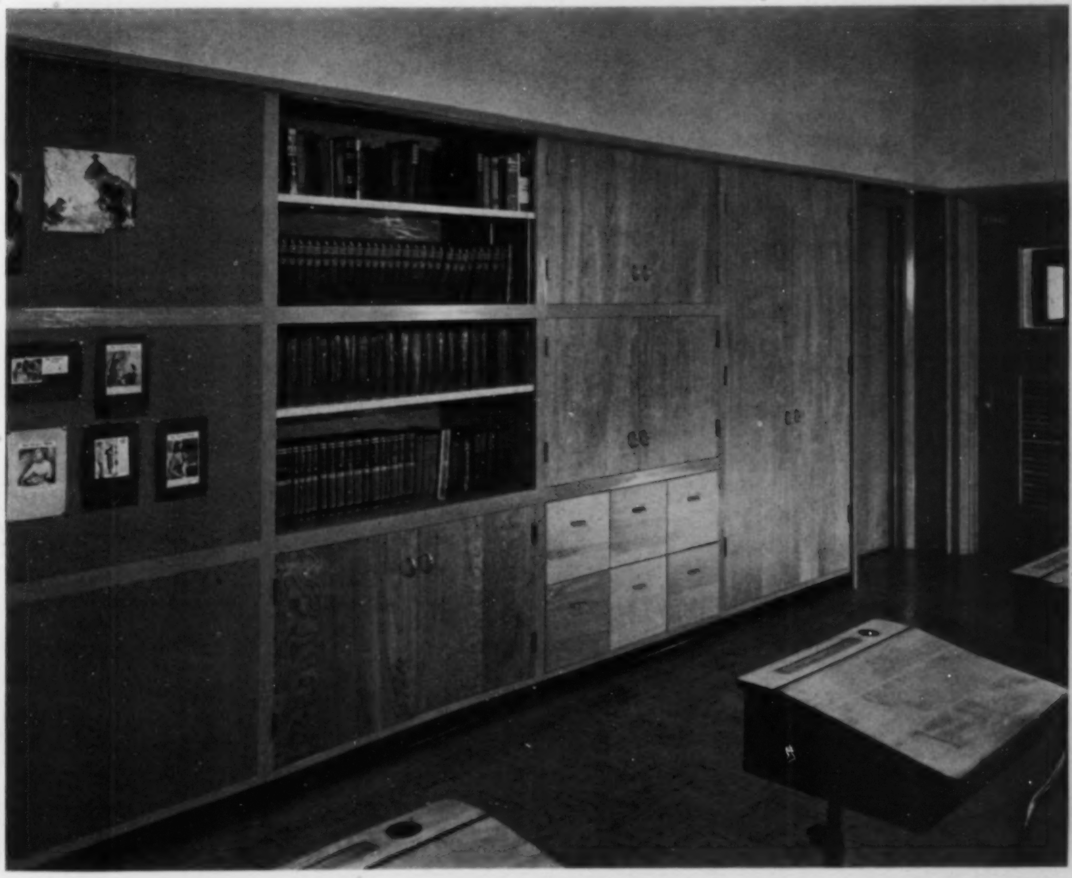

½" ɸ HANGERS 4'-0" O.C.
4" CHANNEL
4" HOLLOW TILE
PLASTER
1⅛"
7/8"
1⅛"
1⅛" HOLLOW CORE DOOR
5/8" PLYW'D
1⅛"
B.B. DRAWER SLIDE
3/8" PLYWOOD
DRAWER
B.B. DRAWER SLIDE
1⅛"
METAL TRAY SLIDE
5/8" OAK SIDES & BACK
½" PLYWOOD BOTTOM
3"
7/8" DIVIDER FOR BOOKSHELVES
THREE UNITS AT 2'-3⅞" OR ONE UNIT AT 6'-11½"
COMPRESS'N RUBBER BASE
CROSSPIECES 4'-0" O.C.
3½"

COMPOSITE SECTION


TACK TRIM
HEAD
MEETING RAIL
DRAWER FILE UNIT
DRAWER FRONT
7'-0¾"
TRAY UNIT
METAL CHANNEL GUIDES
BASE
BASE

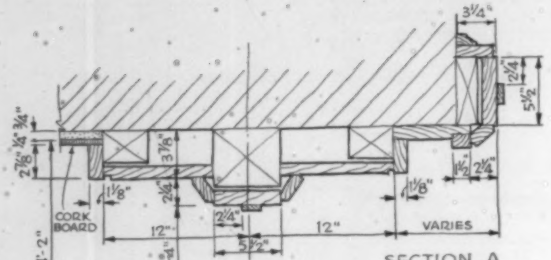
ELEVATIONS

Hedrich-Blessing Studios Photos

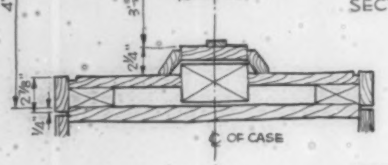


SCHOOL CLASSROOM DETAILS

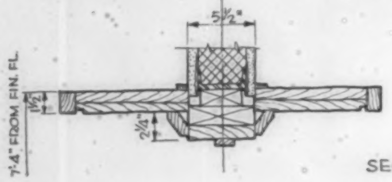
Multiple Unit Storage Cabinets Used as Partition Wall: Perkins & Will, Architects


3¼"
2¼
5½"
2⅞"
¼"
¾"
3⅞
2¼
1⅛"
1⅛"
1½
2¼"
CORK BOARD
2¼"
12"
12"
VARIES
5½"
4'-2"
3'-4"

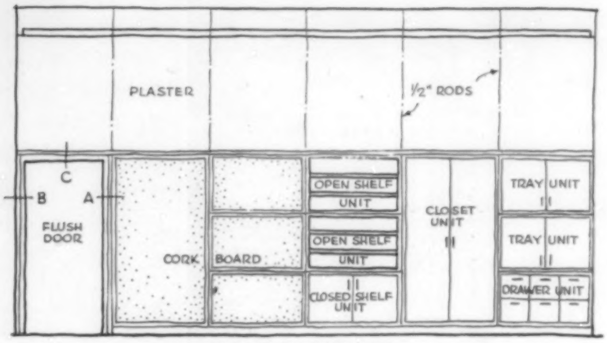
SECTION A


2¼"
2⅞"
¼"
℄ OF CASE

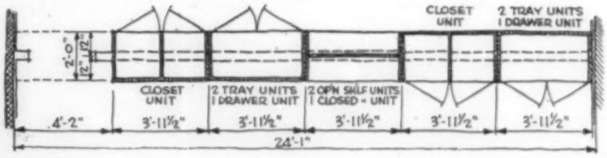
SECTION B

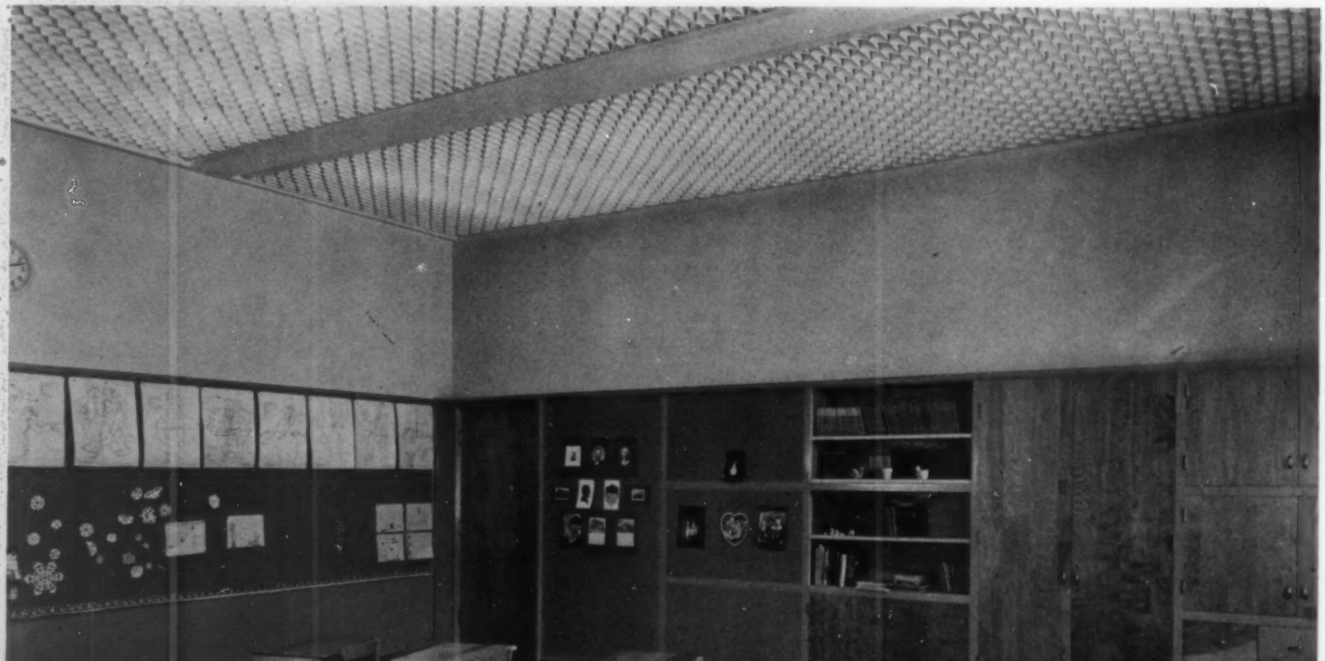

5½"
7'-4" FROM FIN. FL.
1½
2¼"

SECTION C


PLASTER
½" RODS
C
B
A
FLUSH DOOR
CORK BOARD
OPEN SHELF UNIT
OPEN SHELF UNIT
CLOSED SHELF UNIT
CLOSET UNIT
TRAY UNIT
TRAY UNIT
DRAWER UNIT

NORTH ELEVATION

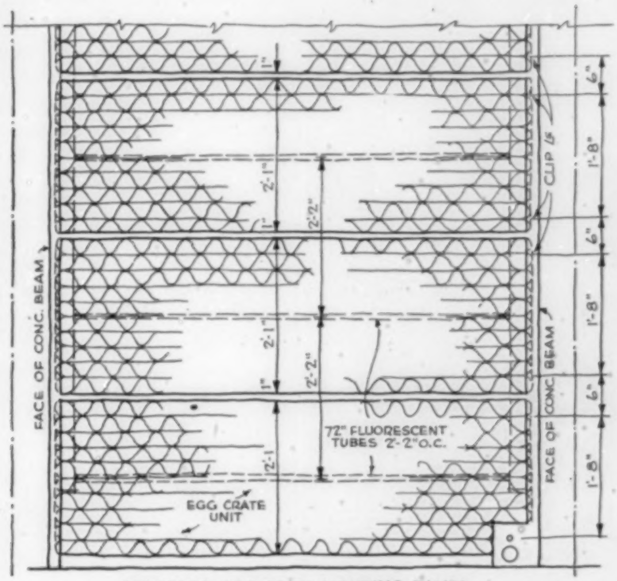

CLOSET UNIT
2 TRAY UNITS 1 DRAWER UNIT
2'-0"
12"
1½"
CLOSET UNIT
2 TRAY UNITS 1 DRAWER UNIT
2 OPN SHLF UNITS 1 CLOSED - UNIT
4'-2"
3'-11½"
3'-11½"
3'-11½"
3'-11½"
3'-11½"
24'-1"



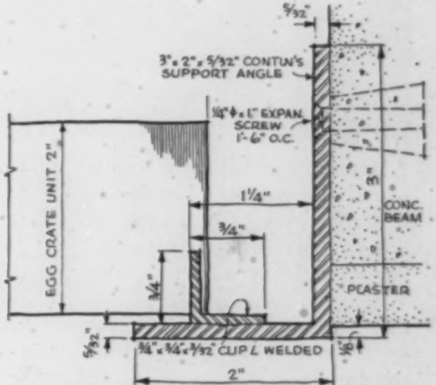
SCHOOL CLASSROOM DETAILS

Egg-crate Lighting over Full Ceiling; Perkins & Will, Architects

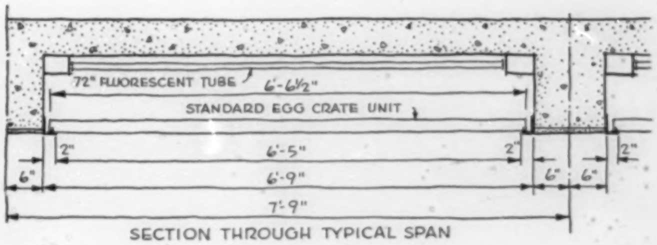
WHERE the school classroom must, as in this case, conform to more conventional shapes than the "California" rooms with their multiple daylighting, the artificial lighting must be of high quality. This classroom, in a recent addition to an elementary school in Park Ridge, Ill., scorns half measures; its ceiling is completely covered with fluorescent lighting behind egg crates. This, in combination with the neat built-ins described on preceding pages, in light woods with light walls and floors, gives not only an excellently lighted room but also a very attractive one.


FACE OF CONC. BEAM
1"
2'-1"
1"
2'-1"
1"
2'-1
2'-2"
2'-2"
72" FLUORESCENT TUBES 2'-2" O.C.
EGG CRATE UNIT
CLIP L's
FACE OF CONC. BEAM
6"
1'-8"
6"
1'-8"
6"
1'-8"

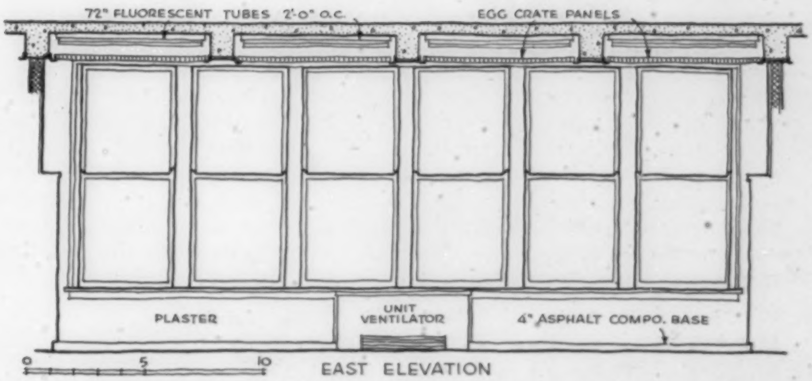
STANDARD EGG CRATE LIGHTING PANEL


5/32"
3" x 2" x 5/32" CONTIN'S SUPPORT ANGLE
1/4" Φ x 1" EXPAN. SCREW 1'-6" O.C.
EGG CRATE UNIT 2"
1 1/4"
3/4"
3/4"
3"
CONC. BEAM
PLASTER
5/32"
3/4" x 3/4" x 3/32" CLIP L WELDED
1/8"
2"

DETAIL OF EGG CRATE UNIT SUPPORTS


72" FLUORESCENT TUBE 6'-6½"
STANDARD EGG CRATE UNIT
2"
6'-5"
2"
2"
6"
6'-9"
6"
6"
7'-9"

SECTION THROUGH TYPICAL SPAN


72" FLUORESCENT TUBES 2'-0" O.C.
EGG CRATE PANELS
PLASTER
UNIT VENTILATOR
4" ASPHALT COMPO. BASE
0
5
10

EAST ELEVATION

(Continued on page 153)

MANUFACTURERS' LITERATURE

Fireplaces

100 Fireplace Ideas. Booklet containing sketches of the most practical fireplaces of the past and present including European, Old Inglenook, New England Colonial, Southern Colonial and Modern. A wide variety of material applications is shown. Description and specifications are given for the *Fyro-Place* metal form which contains a one-piece firebox, smoke dome, control damper and air intakes and outlets. 32 pp., illus. Price Fireplace Heater and Tank Corp., 14 Austin St., Buffalo 7, N. Y. *25 cents.*

Plastic Table Surfaces

Texolite Decorative Surfacing Materials for Table and Counter Tops. Catalogue illustrating available *Texolite* plastic sheets with applications, color charts, properties, grades and sizes included. Plastics Division, Chemical Dept., General Electric, 1 Plastics Ave., Pittsfield, Mass.*

Fire Alarms

Autocall Fire Alarm Equipment. Fire alarm systems suitable for any type building are described, while fire alarm boxes of the break-glass, pull lever, and key operated types are detailed in full. Wiring diagrams of the fire alarm systems are shown and recommendations are made for specific installations in hotels, hospitals, schools, offices and public buildings. Code transmitters and punch recorders are shown for plant protection equipment. 8 pp., illus. The Autocall Co., Shelby, Ohio.

Registers and Grilles

Air Control Registers and Grilles (*Catalog No. 48*). Shown in this catalog are air conditioning registers and grilles, gravity type registers, ceiling diffusers, floor registers and faces, ventilators and accessories. List prices and engineering data are included. 24 pp., illus. Air Control Products, Inc., Coopersville, Mich.

Water Conditioning

A Positive Low Cost Answer to Corrosion, Lime Scale, Red Water. Describes use of *Micromet* in controlling corrosion, preventing lime scale and stopping "red water" discoloration in commercial, farm and small industrial and institutional water systems. 6 pp., illus. Calgon, Inc., Hagan Bldg., Pittsburgh 30, Pa.

Lighting Standards

RLM Standard Specifications for Industrial Lighting Units. Contains detailed specifications for 14 of the most commonly used incandescent and fluorescent lighting units. These specifications cover materials, shielding and brightness, efficiency, auxiliary control equipment, reflection factor, photometric performance, code requirements and many others. 36 pp. RLM Standards Institute, 326 W. Madison St., Chicago 6, Ill.

Wood Construction

Manual on Wood Construction for Prefabricated Houses. Assembled in this handbook is basic scientific and engineering information about wood and wood-base materials used in housing, particularly through factory fabrication. More than 200 photographs and details illustrating designs and techniques employed by leading fabricators are included. There are chapters on glues, paints, preservatives, insulation and strength of materials. 330 pp., illus. Superintendent of Documents, Government Printing Office, Washington 25, D. C. *$1.50.*

Roofing

Plan for Waterproofing and Damp-Proofing. Recommendations for using pitch and felt or fabric to prevent seepage due to moisture or water under pressure. 4 pp., illus. The Barrett Division, Allied Chemical & Dye Corp., 40 Rector St., New York 6, N. Y.*

Marble

Standard Specification and Scaled Details for Interior Marble. Handbook providing complete information for specifying interior and exterior marble. The text, supplemented by illustrations, describes marble classifications, finishes, uses and recommended setting materials and procedures. 66 pp., illus. Marble Institute of America, 108 Forster Ave., Mount Vernon, N. Y.

Metal Framing Anchors

Teco Triple-L-Grip Framing Anchors. Various types of steel framing anchors for wood framing are illustrated with typical applications. Recommended safe working loads, based on laboratory tests, are given for connections using the three types of anchors. 6 pp., illus., Timber Engineering Co., 1319 18th St. N. W., Washington 6, D. C.

Insulation

How Insulation Reduces Operating Costs of Investment Properties. Discussion of advantages possible by using rock wool insulation plus typical installations in roof, ceiling and sidewall sections. A heat saving chart is included. 4 pp., illus. National Gypsum Co., Buffalo 2, N. Y.*

Ventilators

ILG Ventilation. Suggested methods for using electric fan ventilators in kitchens. Pictures of the various units available and specifications are given. 16 pp., illus. ILG Electric Ventilating Co., 2850 N. Crawford Ave., Chicago 41, Ill.*

Iron Lung for Industrial Buildings. Pictures many industrial applications of the *Iron Lung*, fan powered, roof-type ventilator. Operating features are described and dimensions, specifications are given. 22 pp., illus. Powermatic Ventilator Co., 4019 Prospect Ave., Cleveland 3, Ohio.

Conduit Guide

Central Spang Conduit. Shows manufacturing processes and types of conduit made. Another feature is a 37-page section of reference material. This includes standard specifications for rigid steel conduit and fittings and a list of standard specification numbers for accessory parts. Tables of electrical data, definition of terms, electrical symbols and examples of computing conductor sizes have been brought up to date and expanded from an older edition of the book. 64 pp., illus. Spang-Chalfant, Div. of National Supply Co., Grant Bldg., Pittsburgh, Pa.

Boilers

The Fitzgibbons Boiler, Type "D". This catalog gives complete information about the Type "D" steel boiler for use with oil, gas and mechanical stoker firing in sizes from 2680 to 42,500 sq. ft. steam and for hand fired anthracite and bituminous from 2200 to 35,000 sq. ft. steam. Essential factors in boiler selection relating to the Steel Boiler Institute Rating Code are discussed. 12 pp. illus., Fitzgibbons Boiler Co., 101 Park Ave., New York 17, N. Y.*

Paint Guides

Decorator's and Architect's Color Manual. Full color displays in this pocket size manual permit visualization of more

(*Continued on page 196*)

** Other product information in Sweet's File, 1948.*

This picture shows
two important things...

This picture shows two things that, in six months, caused architects to specify *25 million* square feet of the new Celotex Preseal Roof Insulation on major jobs throughout the country—

1. "PRESEAL" REDUCES DANGER OF MOISTURE

A factory-coating of special asphalt on both surfaces and all edges protects Celotex Preseal against moisture... *before, during,* and *after* installation.

2. "PRESEAL" INSURES A STRONGER BOND

The coating has an affinity for the mop... insures a thorough bond to roof deck and to roofing felts of either the asphalt or coal tar pitch type. Application is easier and faster.

These qualities *plus* uniform, high thermal insulation, make Celotex Preseal a roof insulation you can specify without a worry. Its firmness resists fracturing of the roofing felts under traffic during and after application.

YOU ARE INVITED to ask for comparative costs and thermal values on Celotex Preseal Roof Insulation. Please write direct to our Chicago office...

THE CELOTEX CORPORATION, CHICAGO 3, ILLINOIS

In the meantime, you'll find detailed specifications on all Celotex products listed in Sweet's File

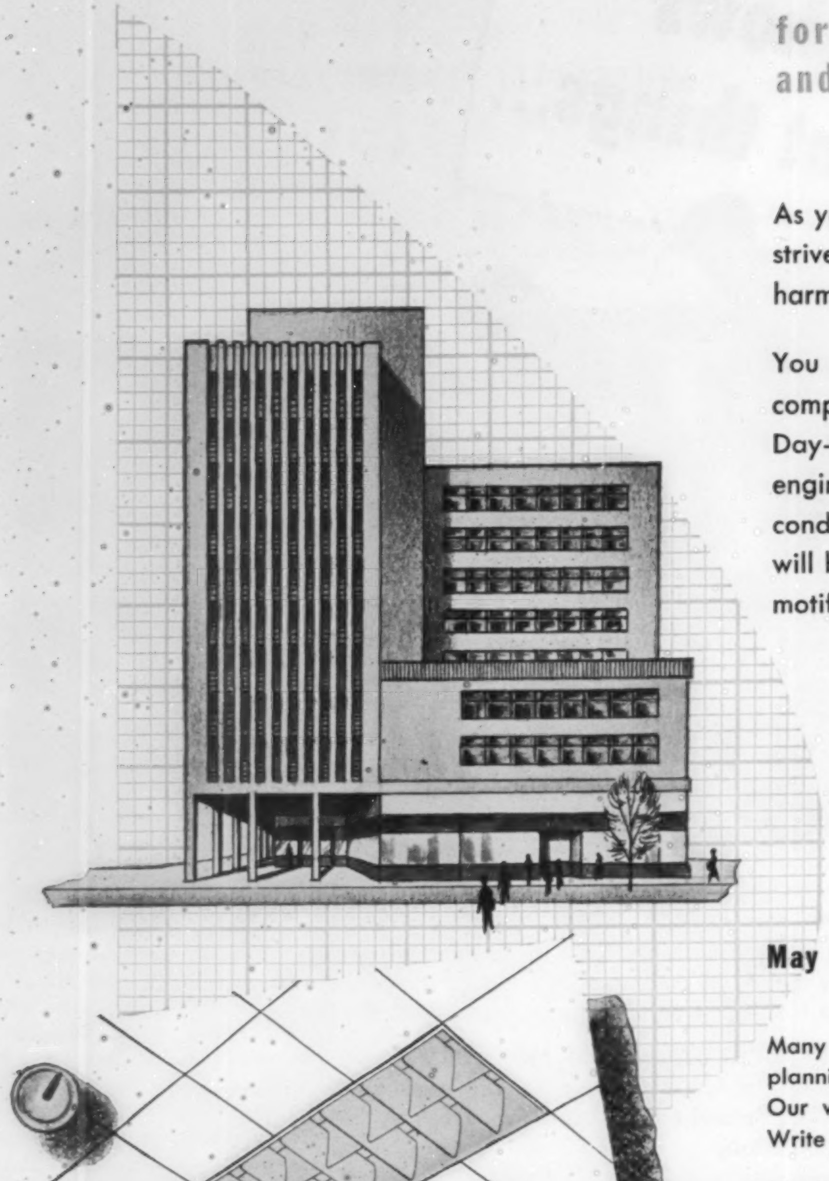
CELOTEX REG. U.S. PAT. OFF. *Preseal* **ROOF INSULATION**

OPTICALLY ENGINEERED

for architectural harmony and efficient planned lighting

As you develop your building designs, you strive for highest lighting efficiency in harmony with architectural beauty.

You can solve this problem without compromise by planning the lighting around Day-Brite fluorescent fixtures. They are engineered to provide optimum visual conditions and their functional simplicity will blend beautifully with your architectural motifs . . . modern or traditional.



May our lighting engineers assist you?

Many leading architects find our service helpful in planning complex layouts or special lighting effects. Our wealth of experience is yours for the asking. Write us any time.

Aluminum Recessed Troffers. Snap-in and Flange Type for accoustical or plaster ceilings . . . unit or continuous installations. Designed for two 40-watt fluorescent lamps. May we send you Bulletin 20-B with more detailed information?

013

IT'S EASY TO SEE WHEN IT'S
DAY-BRITE
Lighting

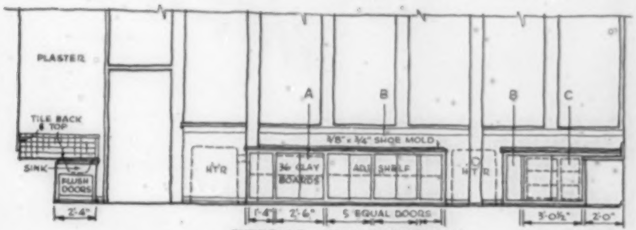
Day-Brite Lighting, Inc., 5465 Bulwer Avenue, St. Louis 7, Mo.
Nationally distributed through leading electrical supply houses.

In Canada: address all inquiries to Amalgamated Electric Corp. Ltd., Toronto 6, Ontario.

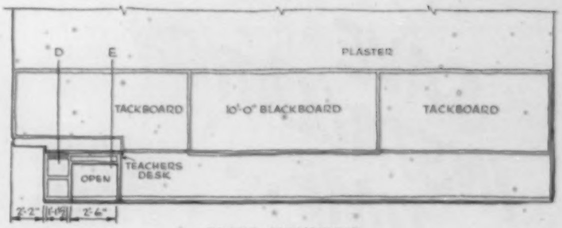
SCHOOL CLASSROOM DETAILS

Standardized storage furniture including portable units

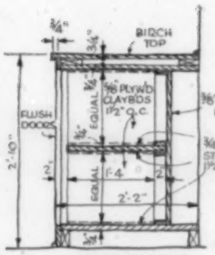
Curtis, Kistner and Wright, Architects and Engineers


PLASTER
TILE BACK & TOP
SINK
FLUSH DOORS
HTR
A
B
B
C
3/8" × 3/4" SHOE MOLD
3/4 CLAY BOARDS
ADJ. SHELF
HTR
2'-4"
1'-4"
2'-6"
5 EQUAL DOORS
3'-0½"
2'-0"

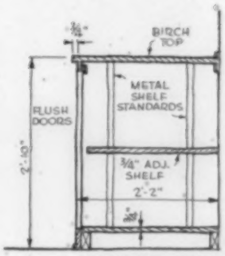
EXTERIOR WALL ELEVATION


D
E
PLASTER
TACKBOARD
10'-0" BLACKBOARD
TACKBOARD
OPEN
TEACHERS DESK
2'-2"
1'-1½"
2'-6"

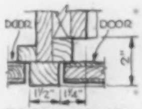
FRONT ELEVATION


¾"
¾"
BIRCH TOP
⅝" PLYW'D CLAYB'DS 1½" O.C.
⅜" PLYW'D BACK
FLUSH DOORS
EQUAL
EQUAL
¾" × ¾" STRIPS 1½" O.C.
2'-10"
2"
1'-4"
2"
2'-2"
¾"

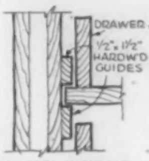
SECTION A-A
CLAYBOARDS


¾"
BIRCH TOP
METAL SHELF STANDARDS
FLUSH DOORS
2'-10"
¾" ADJ. SHELF
2'-2"

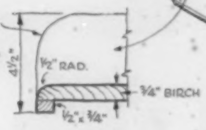
SECTION B-B
CUPBOARD


DOOR
DOOR
2"
1½"
1¼"

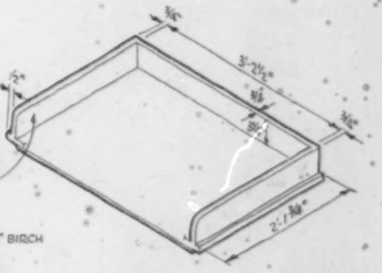
FRONT JAMB


DRAWER
½" × 1½" HARDW'D GUIDES

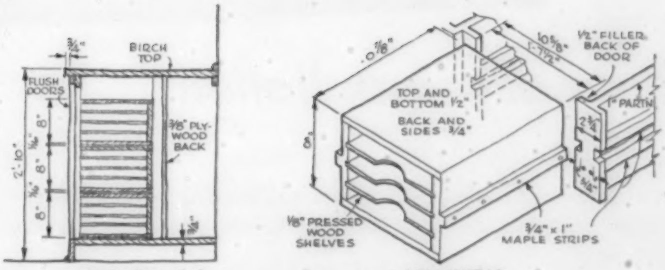
DRAWER GUIDES


4½"
½" RAD.
¾" BIRCH
½" × ¾"

SECTION
DRAWER FRONT


¾"
½"
3'-2½"
⅜"
¾"
¾"
2'-1¾"

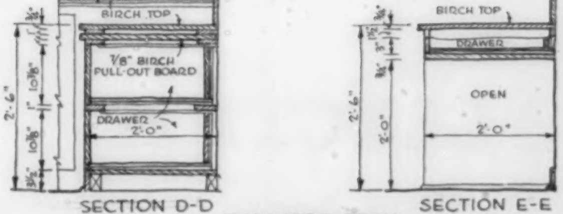
ISOMETRIC
PAPER DRAWER


¾"
BIRCH TOP
FLUSH DOORS
⅜" PLY-WOOD BACK
2'-10"
8"
8"
8"
3/16"
3/16"
1'-0⅛"
10⅝"
1'-7½"
½" FILLER BACK OF DOOR
TOP AND BOTTOM ½"
BACK AND SIDES ¾"
8"
1" PART'N
2¾
¾"
⅛" PRESSED WOOD SHELVES
¾" × 1" MAPLE STRIPS

SECTION C-C

ISOMETRIC

PAPER DRAWER


¾" × 9½" BIRCH BACK
BIRCH TOP
⅞" BIRCH PULL-OUT BOARD
DRAWER
2'-0"
2'-6"
10⅞"
1"
10⅞"
3½"
BIRCH TOP
DRAWER
OPEN
2'-0"
2'-6"
2'-0"
1½"
3"

SECTION D-D

SECTION E-E

TEACHERS DESK

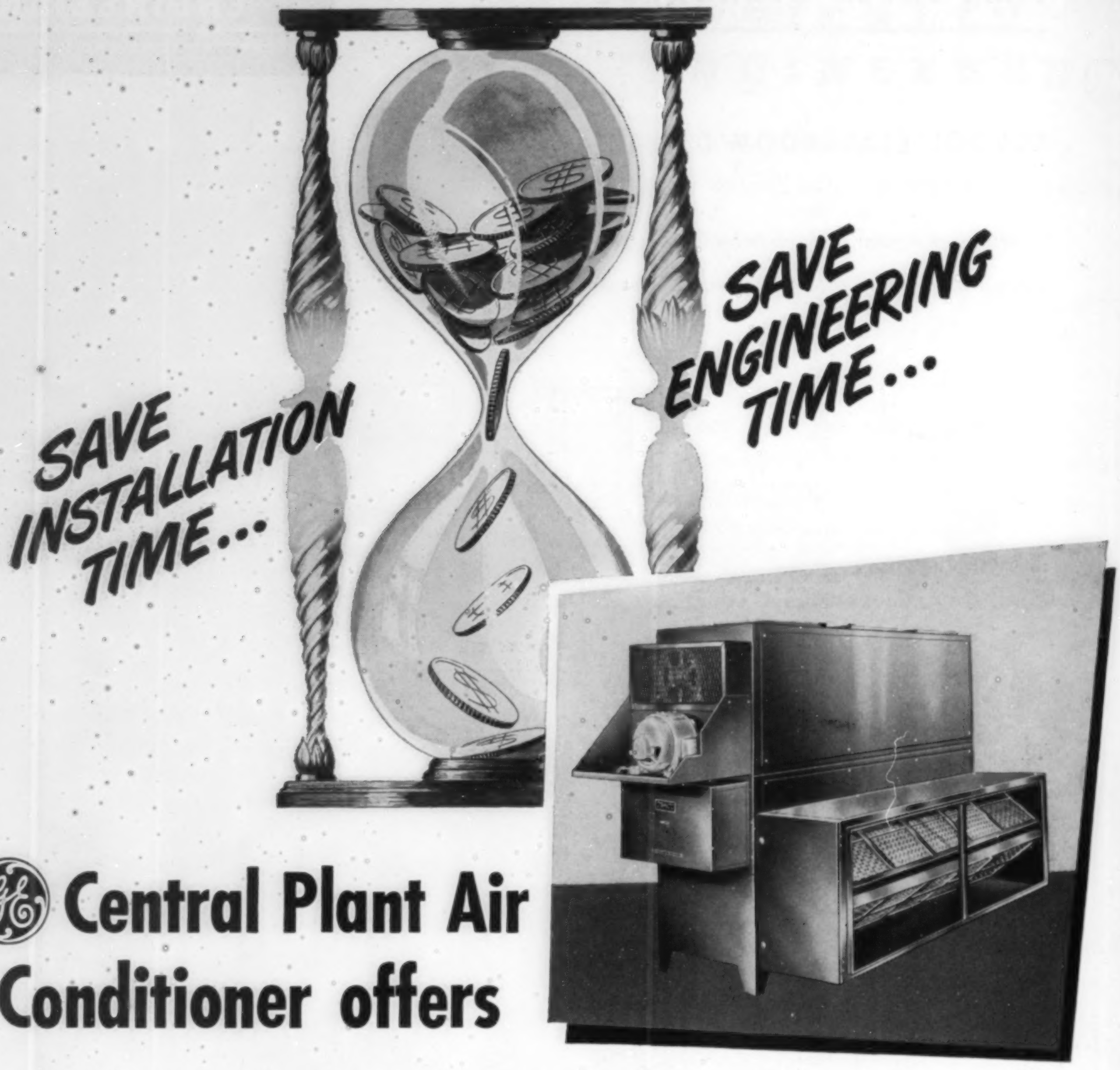
Classroom storage furniture seen on this page and on page 155 has been thoroughly tested in use over a period of years during which the architects have been repeating the elements, with minor variations and occasional improvements, over a large number of schools.

A leading feature is that many of the smaller units, such as sets of shelves for "construction" paper and the like, can be carried bodily to desks and replaced at the end of the school period, saving steps and confusion during class.

Details are keyed to elevations of a typical classroom, approximately 30 ft. square, having unit heater-ventilators.

A useful unit, not shown, is a nest of "sawhorses" in the form of boxes with two sides left open for nesting and clamping purposes.

(Continued page 155)


SAVE INSTALLATION TIME...
SAVE ENGINEERING TIME...

Central Plant Air Conditioner offers

Flexibility plus easy installation

TRYING to keep costs down on air conditioning jobs? Then you'll like the time-saving, space-saving features of a General Electric Central Plant Air Conditioner.

This compact, light-weight equipment can be arranged in 12 different ways . . . for either horizontal or vertical discharge of air . . . motor and coil connections on either right or left side.

All basic sections will pass through a standard 30" door. That means no knocking down of walls . . . no disassembling of sections into small pieces.

A horizontal or vertical G-E Central Plant Air Conditioner . . . for standing or suspended installation . . . will give your client long-lasting, reliable service at lower overall cost. Check with your local G-E Air Conditioning specialist.

General Electric Company, Air Conditioning Department, Section A8446, Bloomfield, New Jersey.

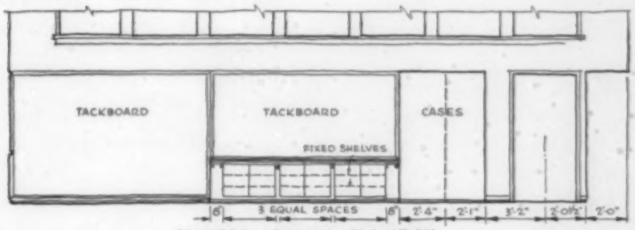
GENERAL ELECTRIC

Better Air Conditioning

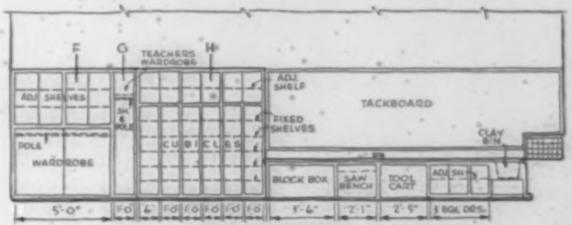
SCHOOL CLASSROOM DETAILS

(Continued from page 153)

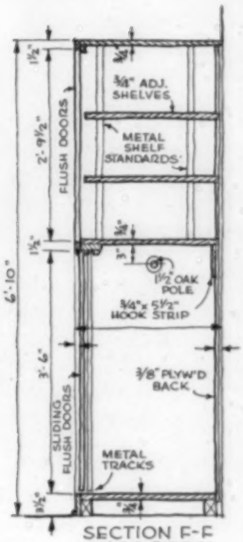
Standardized storage furniture including portable units


TACKBOARD
TACKBOARD
CASES
FIXED SHELVES
8"
3 EQUAL SPACES
8"
2'-4"
2'-1"
3'-2"
2'-0½"
2'-0"

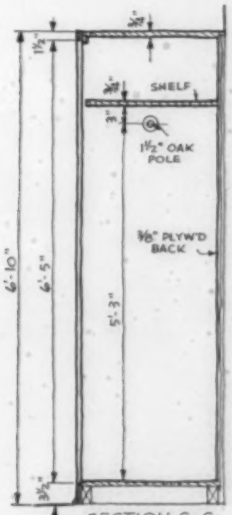
COVERED PASSAGE ELEVATION


F
G
TEACHERS WARDROBE
H
ADJ. SHELVES
SH. & POLE
POLE
WARDROBE
CUBICLES
ADJ. SHELF
FIXED SHELVES
TACKBOARD
CLAY BIN
BLOCK BOX
SAW BENCH
TOOL CART
ADJ. SH.
5'-0"
F.O.
6"
F.O.
F.O.
F.O.
F.O.
F.O.
3'-6"
2'-1"
2'-5"
3 EQL DRS.

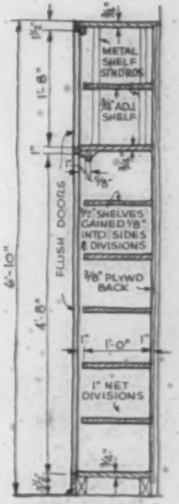
REAR ELEVATION


¾" ADJ. SHELVES
METAL SHELF STANDARDS
FLUSH DOORS
2'-9½"
1½"
1½"
1½" OAK POLE
¾" x 5½" HOOK STRIP
3'-6"
6'-10"
⅜" PLYW'D BACK
SLIDING FLUSH DOORS
METAL TRACKS
3½"

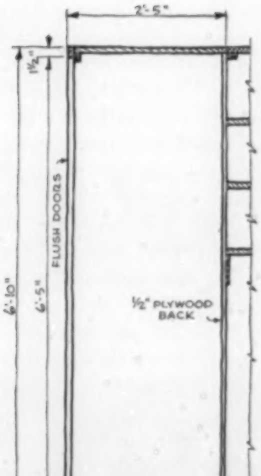
SECTION F-F
WARDROBE


1½"
SHELF
3"
1½" OAK POLE
⅜" PLYW'D BACK
6'-10"
6'-5"
5'-3"
3½"

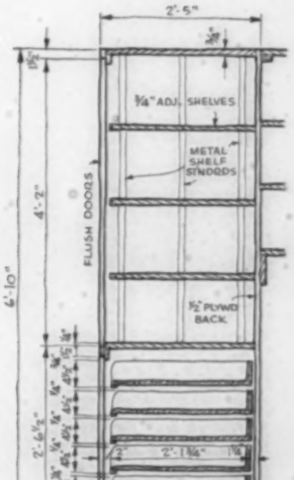
SECTION G-G
TEACHERS WARDROBE


1½"
METAL SHELF STNDRDS
¾" ADJ. SHELF
1'-8"
1"
FLUSH DOORS
½" SHELVES GAINED ⅛" INTO SIDES & DIVISIONS
⅜" PLYWD BACK
6'-10"
4'-8"
1'-0"
1" NET DIVISIONS
3½"

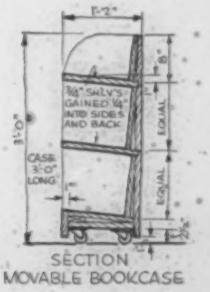
SECTION H-H
CUBICAL CASE


2'-5"
1½"
FLUSH DOORS
6'-10"
6'-5"
½" PLYWOOD BACK
3½"

SECTION
LUMBER CASE

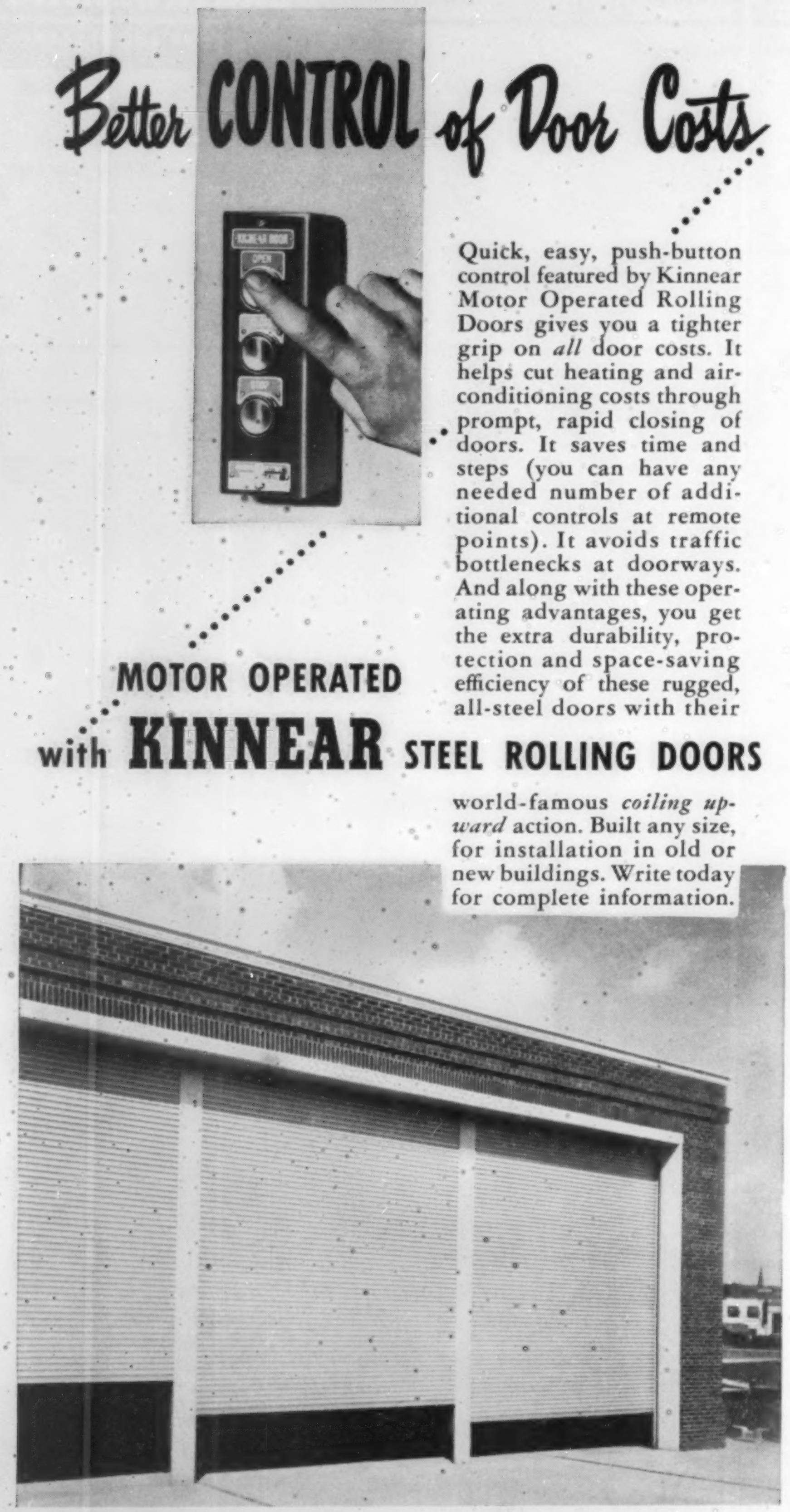

2'-5"
1½"
¾" ADJ. SHELVES
METAL SHELF STNDRDS
FLUSH DOORS
4'-2"
6'-10"
½" PLYWD BACK
2'-6½"
2'-1¾"

SECTION
SUPPLIES & PAPER CASE AT ENTRANCE


1'-2"
8"
¾" SHLV'S GAINED ¼" INTO SIDES AND BACK
3'-0"
CASE 3'-0" LONG
EQUAL
EQUAL

SECTION
MOVABLE BOOKCASE

Details are keyed to elevations above, indicating a typical 30 ft. square room



Better CONTROL of Door Costs

Quick, easy, push-button control featured by Kinnear Motor Operated Rolling Doors gives you a tighter grip on *all* door costs. It helps cut heating and air-conditioning costs through prompt, rapid closing of doors. It saves time and steps (you can have any needed number of additional controls at remote points). It avoids traffic bottlenecks at doorways. And along with these operating advantages, you get the extra durability, protection and space-saving efficiency of these rugged, all-steel doors with their world-famous *coiling upward* action. Built any size, for installation in old or new buildings. Write today for complete information.

MOTOR OPERATED

with **KINNEAR** STEEL ROLLING DOORS

"Saving Ways in Doorways"

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FACTORIES
1860-80 Fields Ave.
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San Francisco 24, California
Offices and Agents in Principal Cities

(*Continued from page 10*)

Quebec government two months previously. The latter ear-marked $3.5 million to pay a 3 per cent share of the 5 per cent interest rate on mortgage loans made by the province, credit unions and other lending agencies. The loans, amortized over a 30-year period, are limited to $6000 for the first dwelling unit, and $4000 each for additional units provided under the same roof. An earlier bill authorized municipalities to make cheap land and tax exemptions available for new housing.

Town Planners Confer

The first annual meeting of Canada's newly incorporated Institute of Professional Town Planners was held recently in Toronto. Chief concerns of the Institute are "the development of urban communities and their environment as social and economic units, and the development of geographical and political regions."

The main item on this year's agenda was discussion of the achievements of the Ontario Planning Act. Since it came into force two years ago, 65 planning boards have been established. They have jurisdiction over 120 of the province's 900 municipalities and represent the interests of well over half the population.

Guest speaker Frederick J. Adams, president of the American Institute of Planning, urged his Canadian confrères "to elevate the standards of community planning to the highest levels."

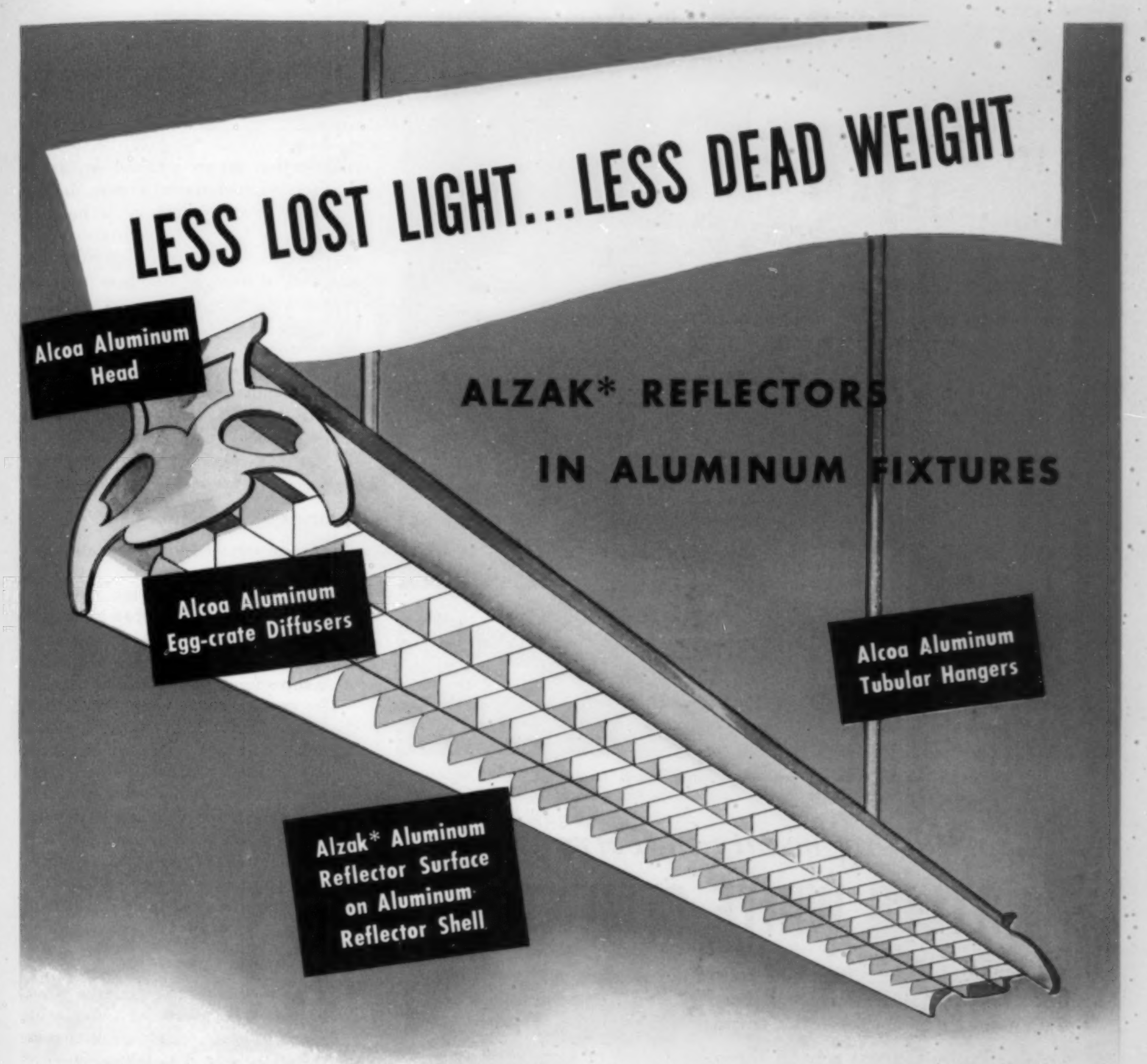
New Investment Record

Canada is likely in for another spurt of inflation. This conclusion is drawn from a recent Dominion Government report on the 1948 investment plans of businesses, institutions, governments, and individual farmers and house builders. It reveals that capital expenditures for new construction, machinery and equipment are expected to reach $2.8 billion, 17 per cent more than in 1947. Current expenditures for repairs and maintenance are expected to reach $1.2 billion, 4 per cent more than in 1947.

The stimulus these huge spending programs will have on the Canadian economy may not be as great as percentage increases indicate. The higher figures are due more to an increase in prices than an increase in physical volume. Nevertheless, they are almost certain to blow the inflation kite still higher.

The government report says "repair and maintenance expenditures draw on virtually the same pool of scarce materials that new investment does." Of utmost importance, therefore, is the

(*Continued on page 158*)


LESS LOST LIGHT...LESS DEAD WEIGHT
Alcoa Aluminum Head
ALZAK* REFLECTORS
IN ALUMINUM FIXTURES
Alcoa Aluminum Egg-crate Diffusers
Alcoa Aluminum Tubular Hangers
Alzak* Aluminum Reflector Surface on Aluminum Reflector Shell

More light where you want it when you install high-efficiency Alzak Aluminum Reflectors. Made by leading manufacturers of all types of lighting, Alzak-treated aluminum may have a reflectivity as high as 83%. And they maintain high efficiency even in severe industrial exposures. Normal grime is readily removed with soap and water to keep them at top efficiency.

Alzak Reflectors are aluminum throughout . . . cannot spall nor rust if dented. They are light in weight to reduce loads on supports and structures.

Get maximum savings in weight and avoid periodic painting . . . order fixtures with Alcoa Aluminum Tubing for hangers, and Alcoa Aluminum Castings for head housings, end fittings, and other parts.

Your electrical supplier carries complete lines of Alzak Aluminum Reflectors made by leading manufacturers. Tell him you want to go aluminum all the way.

ALUMINUM COMPANY OF AMERICA, 1474 Gulf Building, Pittsburgh 19, Pennsylvania. Sales offices in 54 leading cities.

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ALCOA FIRST IN ALUMINUM

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60 YEARS OF SERVICE

For lasting beauty in floors
...TERRAZZO

Boston University's Administration Building lobby. Architect, Cram & Ferguson; Terrazzo Contractor, De Paoli Mosaic Co.; both of Boston

For lasting beauty in Terrazzo

ATLAS WHITE CEMENT

Here's a floor that withstands constant pounding and scuffing of feet, yet retains its colorful beauty. It's Terrazzo . . . made with a matrix of Atlas White Cement.

Atlas White Cement sets off the color values of aggregates or pigments used in Terrazzo, Stucco, Cement Paint and Architectural Concrete Slabs. Such a white matrix has the uniform clarity to complement the desired colors, whether in contrast or blend.

Atlas White complies with Federal and ASTM specifications for portland cement. It has the same advantages for concrete and is used in the same way. Atlas White concrete looks clean, fresh and colorful . . . and it cleans easily. Maintenance costs are low.

For further information on the uses of Atlas White Cement, see SWEET'S Catalog, Sections 4B/2 and 13B/8, or write to Atlas White Bureau, Universal Atlas Cement Company (United States Steel Corporation Subsidiary), Chrysler Building, New York 17, N. Y.

AR-T-13

FOR BEAUTY AND UTILITY
ATLAS WHITE CEMENT
FOR TERRAZZO, PAINT, SLABS, STUCCO

A UNIVERSAL ATLAS PRODUCT

"THEATRE GUILD ON THE AIR"—*Sponsored by U. S. Steel Subsidiaries*
Sunday Evenings—September to June—ABC Network

(*Continued from page 156*)

construction supply picture. According to a second government report, dealing with the 1948 production of building materials in Canada, it is brighter than ever before. Of 30 key items surveyed, increases of from 10 to 50 per cent are expected in 10, existing or slightly higher levels will be maintained for 18, and decreases will be shown by only two — i.e., cast iron water pipe and fittings, and cast iron radiators.

With supply bottlenecks all but eliminated there appears to be little in the way of Canadian public and private investment totaling $4 billion in 1948.

Summer School Held

A summer school for architects, town planners, surveyors and others interested in land subdivision for community purposes is now in session (May 31 to June 9) at Macdonald College, Ste. Anne de Bellevue, Quebec. Sponsor is the School of Architecture, McGill University.

The course, which is concerned with the technical and administrative aspects of planning as they apply to central and eastern Canada, is being conducted with few lectures and much discussion. The first section of the program is devoted to investigation of needs and practices, and formulation of tentative standards. The second section is reserved for analysis and solution of actual planning problems.

List Restricted Imports

At its members' request, the Royal Architectural Institute of Canada has prepared a memorandum concerning construction materials whose importation is restricted by the Dominion Government.

Now on the banned list, according to the R.A.I.C. memorandum, are tarred paper, prepared roofings and shingles, insulation (including mineral wool, but not including fiber glass), building boards, wall papers, fillers, paints and varnishes, plumbing fixtures, semi-manufactured lumber, hardwood flooring, door and window frames and sash, plywoods and veneers, millwork and wire screens. Importation is also prohibited of building stone, marble, granite, structural iron and structural steel. Equipment items denied entry include refrigerators, domestic washing machines, apparatus designed for heating (including boilers), air conditioning and cooking, electric light fixtures and appliances, and domestic water heaters and garbage disposal units.

While the list has been approved by the government as of April 1, it is subject to change without notice.

Underwriters' Laboratories, Inc.
INSPECTED
FIRE DOOR FOR OPENING IN VERTICAL SHAFT
No. S

This metal label is fastened to the top edge of every Weldwood Fireproof Door.

Picture shows absolute protection afforded by Weldwood Fireproof Door. After withstanding an intense fire for sixty minutes, the Weldwood Fireproof Door still prevented passage of fire, smoke, heat, gases and remained cool to the touch on the unexposed side.

Announcing THE NEW WELDWOOD FIREPROOF DOOR

Weldwood Fireproof Doors bear the official label of the Underwriters' Laboratories (official testing agency for fire insurance Underwriters).

They attained the one-hour fire rating by withstanding a free-burning fire for one hour, the ultimate temperature being 1700°. And after that, the impact of a 30-pound pressure hose stream, applied 20 feet from the fire side, for one minute.

Weldwood Fireproof Doors are a *must* for hospitals, schools, institutions, offices, and apartment buildings.

And these amazing doors are as *beautiful* as they are *safe!* They're dimensionally stable . . . stay straighter and are lighter in weight than other fireproof doors. The original cost is moderate, maintenance cost is practically non-existent, and Weldwood Fireproof Doors last for the life of the building.

For additional information write to: United States Plywood Corporation, New York 18, N.Y.

A Wood-Faced Fireproof Door which offers all these advantages

1. *Increased Safety*

The *only* wood-faced fireproof door which bears the Underwriters' label. All Weldwood Fireproof Doors are approved for class B openings.

2. *Beauty*

Because of their beautiful wood faces Weldwood Fireproof Doors harmonize perfectly with any decorative scheme.

3. *Durability*

The Underwriters' Laboratories tested a Weldwood Fireproof Door for durability by mechanically opening and closing it 200,000 times. At the end of the test, the door was unaffected and still opened and closed perfectly.

4. *Dimensional Stability*

Weldwood Fireproof Doors are so dimensionally stable that we guarantee them against sticking in summer or rattling in winter due to any dimensional changes in the door.

5. *Light Weight*

At last . . . a really fireproof door that is *not* heavy or unwieldy. A standard 3 x 7 door weighs approximately 80 lbs.

6. *Vermin and Decay Proof*

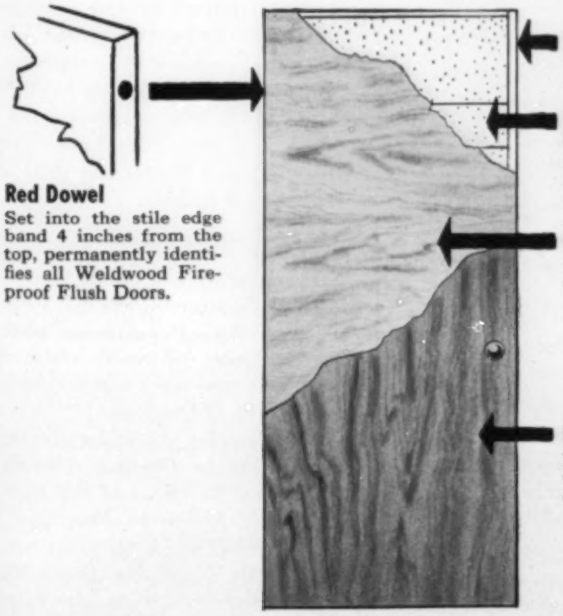
The mineral composition Kaylo core used in Weldwood Fireproof Doors is permanently resistant to fungus, decay, and termites.

7. *High Insulating Qualities*

Another noteworthy characteristic of Kaylo insulation is its high insulating value over a wide range of temperatures. It is efficient against temperatures from freezing up to that of superheated steam.

8. *Moderate Cost*

Investigate these doors for use on your next job. You will be pleasantly surprised at the low initial cost, and the minimum of maintenance required.



Red Dowel
Set into the stile edge band 4 inches from the top, permanently identifies all Weldwood Fireproof Flush Doors.

Edge Banding
Of fireproofed hardwood matches the faces.

Kaylo Core
Is manufactured by American Structural Products Co., subsidiary of Owens Illinois Glass Co.

Cross Banding
Of 1/16" veneer is bonded to Kaylo core.

Face Veneer
Is birch. Other decorative woods available on special order.

UNITED STATES PLYWOOD CORPORATION

55 West 44th Street, New York 18, N. Y.

Distributing units in Baltimore, Boston, Brooklyn, Chicago, Cincinnati, Cleveland, Detroit, Fresno, High Point, Los Angeles, Milwaukee, Newark, New York, Oakland, Philadelphia, Pittsburgh, Portland, Ore.; Rochester, San Francisco, Seattle. Also U. S.-Mengel Plywoods, Inc. distributing units in Atlanta, Dallas, Houston, Jacksonville, Louisville, New Orleans, St. Louis, Tampa. *In Canada:* United States Plywood of Canada, Limited, Toronto.

Bertha... "THE SEWING MACHINE GIRL"

is really cozy now!

How to keep 25,000 square feet of unbroken floor area warm enough that women's fingers could keep pace with high speed sewing machines, even on coldest days? Mr. M. M. Barry, manager of the Connellsville Sportswear Company, a garment manufacturing plant in Connellsville, Pennsylvania, had this seemingly expensive heating problem to solve.

Mr. Barry found a simple, low-cost solution by providing heat directly at working level with Dravo *Counterflo* Heaters. Four heaters, one on each wall, blanket the factory working area with a draft-free "cross-fire" of warm air above the heads of the workers. Heat distribution is uniform at 72 to 75 degrees throughout.

Completely automatic, the Dravo *Counterflo* Heaters require only a fuel line, power line and short vent stack—no boiler room. The thermostat is lowered or shut off completely at night for additional, important economies.

Dravo heaters produce warm air quickly. Sturdy, carefully engineered construction, plus a stainless steel combustion chamber, minimize maintenance cost. Equally efficient with oil or gas, sizes ranging from 400,000 to 2,000,000 BTU per hour output are available. A touch of the selector switch converts them immediately to high-capacity air-circulating units for summer use.

If you would like more information to help solve your own heating problems, write for Bulletin JE-516, Heating Section, Dravo Corporation, Dravo Building, Pittsburgh 22, Pennsylvania.

Living room comfort speeds production and cuts absenteeism in this modern garment manufacturing plant. As the manager, Mr. Barry says, "Women employees cannot be expected to operate sewing machines properly if their hands and feet are cold or if they are otherwise uncomfortable."

Dravo also manufactures the *DRAVO CRANE CAB COOLER* for air conditioning hot-metal crane cabs

DRAVO CORPORATION

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DRAVO

(*Continued from page 22*)

of $1,317,256,000 reported by the Corporation for 1946. During the first quarter of this year manufacturing building contracts in the 37 eastern states totaled $181,240,000 against $242,495,000 during the corresponding quarter of last year.

WITH THE A.I.A.

Walker and Levi Will Represent A.I.A. at Lausanne

Ralph Walker and Julian Clarence Levi, both F.A.I.A., of New York, have been chosen to represent The American Institute of Architects at the First Congress of the International Union of Architects from June 28 through July 1 in Lausanne, Switzerland. The Congress is expected to attract architects from throughout the world to discuss such subjects as: "The Architect and Planning," "The Architect and the Industrialization of Building," and "The Architect, State and Society."

Mr. Walker, a member of the New York firm of Voorhees, Walker, Foley and Smith, is a past president of the New York Chapter, A.I.A., and the Architectural League of New York. He served on the Board of Trustees of the Beaux Arts Institute of Design for eight years, and is a member of the New York Citizens Housing Council.

Mr. Levi, a member of the New York firm of Taylor and Levi, and chairman of the Institute's Committee on International Relations, served as chairman of the U. S. Delegation to the VI Pan American Congress of Architects held in Lima, Peru, last year. He has held the offices of treasurer, secretary and vice president of the New York Chapter, A.I.A., and is a former president of the Architectural League.

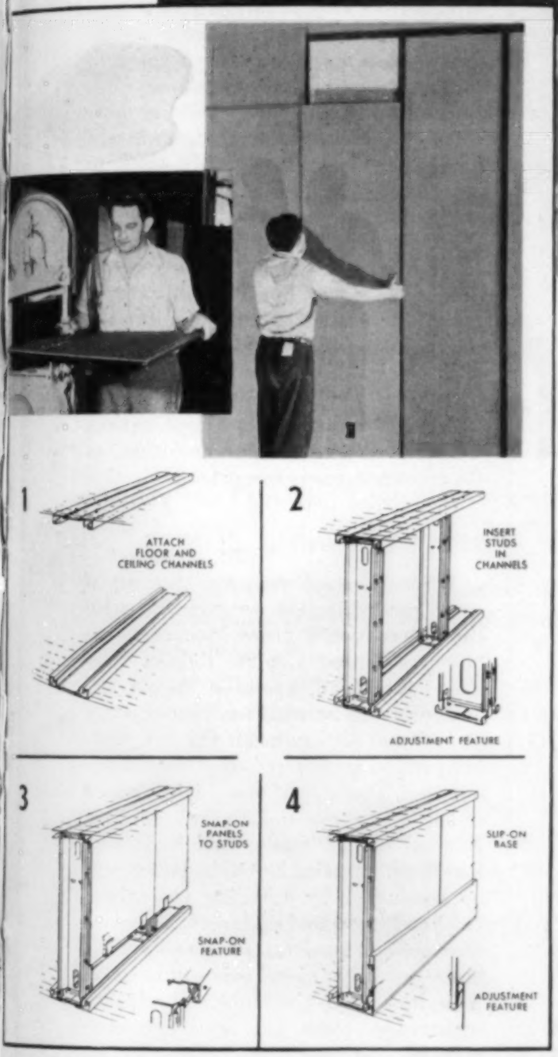
Army Program Endorsed

The Executive Committee of the Board of Directors of the A.I.A. has endorsed a War Department affiliation program which will enable architects to serve in a reserve capacity with the Army Corps of Engineers.

In announcing the endorsement, Edmund R. Purves, Director of Public and Professional Relations of the Institute, said: "The Affiliation Programs initiated by the War Department are conceived in the belief that it is advisable for the country to so organize its potential as to insure that in the event of an emergency there will be available a trained reserve.

"In the case of the A.I.A. the endorsement is general, but the imple-

(*Continued on page 162*)



EASY ON THE EYES! Martin-Parry Metlwal Movable Partitions and Panelings are factory finished in rich, natural wood grain reproductions or baked enamel finishes in a wide variety of colors. These beautiful surfaces will not chip, crack or craze . . . *do not reflect harsh, metallic light* . . . are Bonderized against rust and corrosion.

EASY TO ERECT! Four simple steps are taken to install Metlwal. Workability is complete since all panels and parts may be cut on the job, as shown at the left. *And the Metlwal panel can be handled in full-size by one man.*

MODERN PRODUCTION FACILITIES! Martin-Parry's modern, fully automatic production equipment . . . in our new Toledo plant (below) . . . insures uniformity necessary to preserve the interchangeability of Metlwal panels. Martin-Parry's painstaking quality-control pays dividends in long-wearing installations that hold maintenance costs to a new low.

WRITE TODAY for your copy of our latest catalog A-6. See how Metlwal can help you plan beautiful interiors—quickly cover interior walls and divide space—with *only a few standardized parts, from local distributors' warehouse stock.* Learn why Metlwal is easily movable without waste—easy to maintain—eliminates the need for plaster in new construction and for filler boards of other materials at ends or above cornice level. Just drop a line to: Martin-Parry Corp., Toledo 1, Ohio.

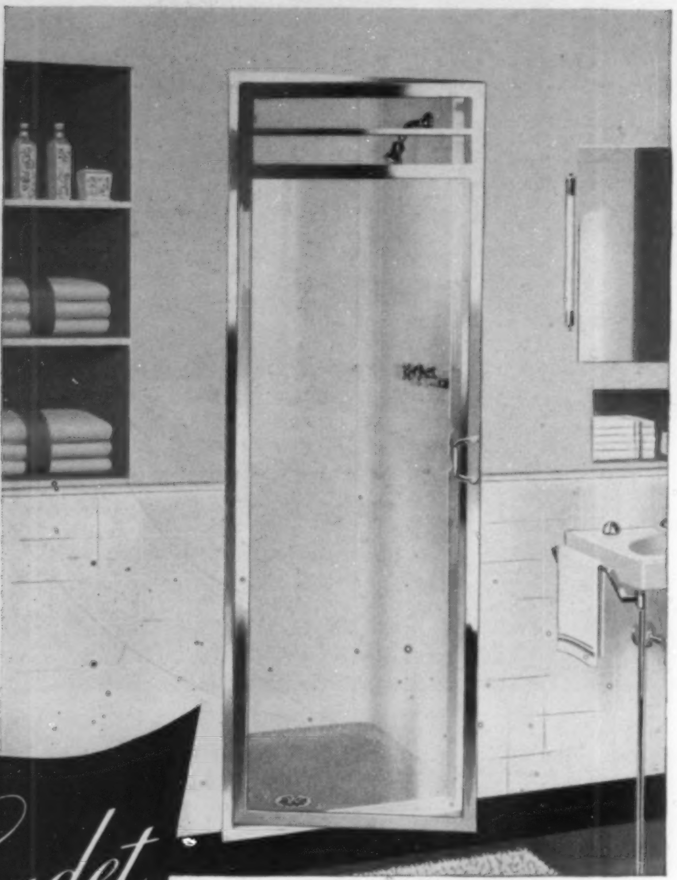
MARTIN PARRY
MP
PRODUCTS

METLWALS

ALL-FLUSH PANELING
MOVABLE PARTITIONS

68 Years of Service

ENGINEERING AND ERECTING SERVICE AND WAREHOUSE STOCKS FROM COAST-TO-COAST



BUILT-IN SHOWER CABINET

DESIGN NO. 19-B

The built-in Cadet promises to be one of the most popular shower cabinet models in the Fiat line. Redesigned with new construction features such as the elimination of all interior screws and with smooth curved corner joining the Cadet can be classed as the modern shower of the future.

The demand for the ultimate in clean cut appearance, and the trend toward a built-in or enclosed shower has inspired the new built-in Cadet. Equipped with a Zephyr or Dolphin glass door as illustrated the Cadet model 19-B is a natural for installation in the average, as well as the better class of homes.

The exclusive Fiat escutcheon type door frame conceals the joint between wall material and cabinet stiles. This unit is of particular interest to operative builders because of its beauty of design and savings over built-on-the-job shower construction.

Size 36" x 36" x 80", receptor precast terrazzo with cast-in drain. Walls, bonderized, galvanized, steel finished in white baked-on synthetic enamel. Can be supplied with Dolphin or Zephyr glass door, or shower curtain.

Fiat Metal Manufacturing Company
CHICAGO 13, ILL.
LONG ISLAND CITY 1, N. Y. LOS ANGELES 33, CALIF.

In Canada Fiat showers are manufactured by The Porcelain and Metal Products, Ltd., Orillia, Ont.

(*Continued from page 160*)

mentation will have to be on an individual basis. It is possible that some chapters of the Institute may be in a position to sponsor and organize units, even of company size. However, for the most part, it is anticipated that interested architects who are equipped to do so will make application individually."

Architects who affiliate with the Corps of Engineers are given definite assignments on the organization tables of various reserve military battalions, companies and detachments. There are more than 1000 Engineer units ranging in size from Engineer Construction Groups to highly specialized Engineer Model Making Detachments. Opportunities for affiliation of architects with other branches of the Armed Services will be made possible in the future, Mr. Purves reported.

He pointed out that the present announcement pertains only to the Corps of Engineers of the Army, but that opportunities for affiliation of architects with other branches of the armed services will be made possible in the future, as the effort progresses toward organization of the civilian potential.

STORE-PLANNING CLINICS

A five-day conference on problems of store modernization to coincide with the International Store Modernization Show at Grand Central Palace, New York, July 6–10, has been announced.

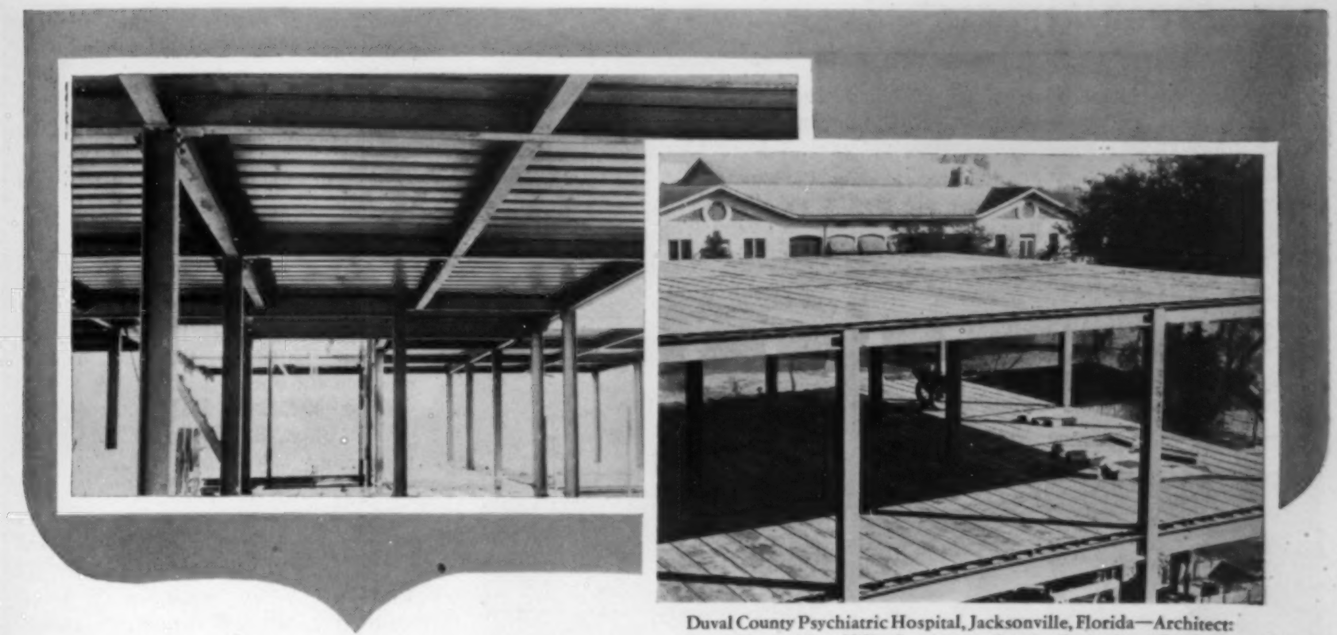
Clinics will be conducted twice daily at 1:30 and 4:00 p.m. for the five days. Subjects to be covered are "Store Layout and Traffic," "Store Lighting and Color," "Displays and Fixtures," "Store Fronts," and "Planning and Budgeting for Modernization." Each panel will be conducted by retailing executives, store architects and designers, and manufacturers of modernization equipment. Slides and other visual aids will be used.

Invitations to the Show and advance registration cards for the conference may be obtained from John W. H. Evans, managing director of the Store Modernization Show, 40 E. 49th St., New York 17, N. Y.

EXHIBIT AVAILABLE

The American Federation of Arts, Washington, D. C., has announced a new traveling exhibition, "St. Louis' Jefferson Memorial Competition." The exhibit consists of 35 drawings commemorating St. Louis' position as "The Gateway of the West," and includes the prize-winning designs. The national tour of 10 museums and galleries is sponsored by the Jefferson National

(*Continued on page 164*)



Duval County Psychiatric Hospital, Jacksonville, Florida—Architect: Reynolds, Smith & Hills; Contractor: George D. Auchter Company

Fireproof Construction ...in a hurry!

Speed may not be the first requirement—but it's an important factor in many construction jobs these days.

It follows right on the heels of those prime requirements—good fireproof construction and low cost.

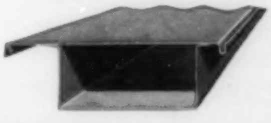
To get all three benefits, Fenestra* Metal Building Panels were specified for this building. 7,200 square feet of 1½"-deep Type D Panels were used as base for its built-up roof. 14,200 square feet of 3"-deep Type D Panels were used for the second and third floors, a concrete slab being poured over the panels and a suspended ceiling installed underneath for fireproof construction.

Fenestra Panels are quickly laid and interlocked without special skills or special tools. Other work can proceed without delay . . . the panels provide a flat surface that is ideal for wheeling in other materials.

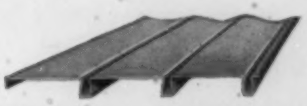
Fenestra Building Panels are suitable for all types of buildings. They save construction time and money, not only in floors and ceilings, but also in walls, partitions and roofs. See Sweet's Architectural File for 1948 (Section 3c-1) or mail the coupon for full information. *Trademark

THESE NONCOMBUSTIBLE FENESTRA PANELS SPEED ALL TYPES OF CONSTRUCTION

TYPE C FOR WALLS. Two metal members pressed together, with felt at each side to prevent metal-to-metal contact. Filled with insulation and closed at the ends, at the factory. Standardized in 3" depth and 16" width, in 18 gage painted steel or 16 B & S gage aluminum.



TYPE D FOR FLOORS. Box beam formed by welding together two steel sections. Side laps interlock to form continuous flat surface. Standardized in 16" width. Depth 1½" to 9". Gages 18 to 12. Type AD available with two flat surfaces.



HOLORIB ROOF DECK. Steel sheets reinforced by three integral triangular ribs on 6" centers. Flat surface for mopped application of insulation and roofing. 18" wide. Lengths to 24' to fit. Gages 18 and 20 are standard.

Fenestra
BUILDING PANELS FOR
ROOFS
WALLS
FLOORS

DETROIT STEEL PRODUCTS COMPANY
Building Panels Division
Dept. AR-6, 2252 E. Grand Boulevard
Detroit 11, Michigan

Please send me, without obligation, information on Fenestra Building Panels.

Name______________________________

Company____________________________

Address____________________________

Expansion Association, beginning in August.

For information regarding space requirements, weight and rental fees, address The American Federation of Arts, 1262 New Hampshire Ave., N. W., Washington 6, D. C.

MOBILE MUSEUMS

Scientific and industrial museums soon will operate on a "one-night-stand" basis. Sponsored by American Science and Industry, Inc., four mobile museum units are being constructed which will travel to smaller communities throughout the country to acquaint the public with specific developments which are likely to affect living conditions in the future.

Howard T. Fisher & Associates, Inc., of Chicago have been retained as consultants on the construction of the units, planned for erection within six hours and dismantling in less than three. The displays will consist of show-window cases, measuring 4 by 8 ft. Each industry in the group — including construction, electronics, plastics, aeronautics and transportation — has been allotted 20 such "windows" to be hung in sequence to present a fluid story of industrial and scientific progress.

OFFICE NOTES

Offices Opened, Reopened

Arnold Lawrence, Architect, has announced the opening of an office for the general practice of architecture in the Orford Bldg., 869 Main St., Manchester, Conn.

Sheldon M. Rutter, Industrial Designer, has announced resumption of his services specializing in traditional and contemporary furniture. Address: 212 E. 49th St., New York 17, N. Y., or (studio) Leatherhill Under, Wingdale-Webatuck, N. Y.

Milton Sherman, A.I.A., has reestablished his office for the practice of architecture and industrial design at 141 N. E. Third Ave., Miami 32, Fla.

New Addresses

The following new addresses have been announced:

John Hancock Callender, Architect, 299 Madison Ave., New York 17, N. Y.

Nairne W. Fisher, Architect, 111 W. Washington, Chicago 2, Ill.

A. Mertin, Architect, 467 Pearl St., New York 7, N. Y.

S. Z. Moskowitz, A.I.A., Deposit and Savings Bank Bldg., Wilkes-Barre, Pa.

Archie Protopapas, A.I.A., 121 E. 23rd St., New York 10, N. Y.

Schreier, Patterson & Worland, Architects, 1420 K St., N. W., Washington 5, D. C.

Abraham Waronoff, Architect, 1110 13th St., N. W., Washington, D. C.

Firm Changes

E. W. Bolton, Jr., A.I.A., Briton Martin, A.I.A., and Theo B. White, A.I.A., have announced the formation of a partnership under the firm name of Bolton, Martin & White, Architects, and the moving of their offices to 266 S. 17th St., Philadelphia 3, Pa.

William E. Brackett, Jr., and Marion McD. Brackett have announced the opening of the office of William E. Brackett, Jr., Architect, in the Technical Bldg., Asheville, N. C.

Rosario Candela has announced the formation of a partnership with Paul Resnick under the firm name of Rosario Candela, Architect — Paul Resnick, Associate Architect. Address: 654 Madison Ave., New York 21, N. Y.

Chas. W. Ertz, A.I.A., Morgan H. Hartford, A.I.A., and Otto J. Kuettner,

(Continued on page 166)

WHAT HAPPENS
after
THE ROOF'S ON?

A roof is no better than its shingle . . . and unless it's a *good* shingle, the effort and skill you put into your building is wasted.

Bird Masterbilt Thick Butt Shingles stand the test of time . . . a Bird roof is a better roof. *Extra* layers of asphalt and deeply embedded mineral granules give tough lasting protection *where it counts* . . . on exposed tabs. The rugged surface defies weather . . . and fire resistance is greatly increased for the long life of the shingle. Narrower cut-outs and heavier shadow-lines give added massive beauty . . . and a wide range of handsome lasting colors and blendes is available.

Test Bird Masterbilt Shingles yourself . . . compare them. They are your assurance of years of extra wear, of lasting beauty.

★ ★ ★

Bird helps you build better homes in many ways. Neponset Black Vapor Barrier guards against costly damaging in-wall condensation, yet costs approximately $20 for a $10,000 house. Investigate it today.

East Walpole, Mass. **BIRD & SON, inc.** *Established 1795*

New York *Shreveport, La.* *Chicago*

Pennsylvania builder uses CHASE COPPER TUBE RADIANT HEATING in 185 homes!

At Chester, Pa., F. A. Collins has erected 185 one-story, 6-room cellarless homes with Chase Copper Tube Radiant Heating. Wilson Bros., Collingdale, Pa., Heating Contractors.

HERE'S WHY

you, too, will want Chase copper tube in your Radiant Heating Installations!

- EASY TO BEND
- LIGHT IN WEIGHT
- SOLDERED FITTINGS
- SMALL DIAMETERS
- LONG LENGTHS
- LOW COST
- LONG LIFE

CHASE

ONE advantage of Chase Copper Tube for radiant heating is the fact that no special bending tools are needed for installation. Flexible and small in diameter, it's easily bent by hand. It comes in long lengths of 60′ and 100′ requiring fewer joints. For ceiling installations, the light weight and smaller outside diameter of Chase Copper Tube is ideal. It can be installed in the standard ¾″ ceiling plaster coat.

These facts, and the many other advantages listed in the panel on the right, are the reasons why builders of low-cost housing as well as builders of expensive homes turn to Chase Copper Tube for radiant heating installations.

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Gentlemen: Please forward your new booklet "Suggestions For Designing Radiant Panel Heating with Copper Tube."

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A.I.A., have announced their association as Ertz, Hartford & Kuettner, Architects, with offices at 1205 S. W. 18th Ave., Portland 5, Ore.

Holabird & Root, Architects, have announced that the name of their firm has been changed to Holabird & Root & Burgee. Offices remain at 180 N. Wabash Ave., Chicago 1, Ill.

Hudson and Gilmore, Architects and Engineers, have announced their affiliation with William E. Campbell, Jr., for the continued practice of architecture and engineering as Hudson-Gilmore-Campbell, with offices at 203 Bartlett Bldg., Montgomery, Ala.

Albert Kahn Associated Architects and Engineers, Inc., announces the election of a representative group of technical employees of the organization as members of the firm.

Lucille Bryant Raport (Raport & Hicks), Architect, has announced the change of the firm's name to Lucille B. Raport and James M. Hicks, Architects. Address: 4508 Forman Ave., N. Hollywood, Calif.

Walter Raymond, A.I.A., of Pearisburg, Va., and Charles A. Pearson, Jr., A.I.A., of Radford, Va., have announced the formation of a partnership to be known as Raymond and Pearson, Architects, with offices at Pearisburg and Radford, Va.

Kenn Trumble, John J. Carlos and Gaylord A. Van DeBogart have announced the formation of a new design office and practice, Kenn Trumble and Associates, 335 Buffalo Ave., Niagara Falls, N. Y.

Turner Construction Co. has opened a Chicago office in the Bankers' Bldg., 105 W. Adams St., under the direction of Clarke I. Knudson, contractor-engineer.

AT THE COLLEGES

Competition Announced

A competition among architectural students for the design of a model "shopping center of the future," conducted by the Store Modernization Show in cooperation with the American Institute of Architects, has been announced by John W. H. Evans, managing director of the Show. Judges will be a committee of the A.I.A. and retailing executives.

Twenty-two architectural colleges already have agreed to submit entries. There will be three prizes with cash awards of $500, $250 and $125 respectively, and two honorable mention awards of $75 each. Models and drawings of winning entries will be exhibited first at the Store Modernization Show at Grand Central Palace, New York, July 6–10, and later may be sent on tour of chambers of commerce in key cities of the United States and Canada.

The problem is the unification, both in interior and in exterior appearance, of a square block of retail stores into an ideal shopping center. The stores must be in a presently established commercial center of a city of approximately 75,000 inhabitants near each college campus. The model shopping center must include 10–12 medium-sized shops, a general food store or supermarket, a department store, a newsreel theater, a restaurant and snack bar, a nursery, a relaxation area for children and adults, and a street-level parking area.

Mies van der Rohe Exhibit

A comprehensive exhibition of the architecture of Ludwig Mies van der Rohe was shown on the campus of Illinois Institute of Technology last month. Designed and installed by the architect himself, the exhibit consisted of plans, renderings, and 12-ft. photographic reproductions of his chief works

(*Continued on page 168*)

WEISART

Compartments for Fine Buildings

Typical WEISART installation in offices of the Liberty Mutual Insurance Co., Boston, Mass.
Architect—Chester Lindsay Churchill, Boston

Designed and engineered to harmonize with new trends in finest buildings, WEISART Flush Compartments are thoroughly field tested, and have won wide acceptance. The rigid, flush stile construction eliminates posts and head rails. Weis cut-out type top gravity hinge permits doors and stiles to line up at top.

Doors, stiles and partitions are of highest class flush construction of bonderized, zinc-coated steel, with edges locked and sealed. Synthetic baked enamel finish is easily cleaned, available in any solid colors selected for desired color treatment. Partitions and stiles are supported clear of walls, eliminating dirt-catching corners.

Write today for your copy of Catalog No. 19 containing detailed information on WEISART and WEISTEEL compartments.

Henry Weis Mfg. Co., Inc., 603 Weisway Bldg., Elkhart, Ind.

"Pittsburgh"
Permaflector

Now! STANDARD EQUIPMENT WHICH GIVES *Custom Designed* LIGHTING

PITTSBURGH REFLECTOR COMPANY PRESENTS FOR THE FIRST TIME a line of recessed units in architectural modules—whose application is limited only by the requirements of the designer. These units may be mounted individually, in continuous rows, patterns and squares.

FOUR INTERCHANGEABLE SHIELDING ASSEMBLIES provide every type of shielding. Each Assembly is self-contained within a metal-frame and quickly attaches to the Troffer. Frames are piano-hinged and latched to simplify maintenance.

COMPANION INCANDESCENT EQUIPMENT, designed especially for use with Universal Troffers, complements the line and gives the "accent" lighting needed for planned lighting installations.

For details on the Universal Troffer and companion equipment, send for Advance Notice Sheet 40.

PITTSBURGH REFLECTOR COMPANY

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MANUFACTURERS OF FLUORESCENT AND INCANDESCENT LIGHTING EQUIPMENT
DISTRIBUTED BY BETTER ELECTRICAL WHOLESALERS EVERYWHERE

Permaflector Lighting Engineers in All Principal Cities from 1912 to the present, and included scale models of the new 100-acre campus of Illinois Tech, for which he has designed 19 academic, laboratory and scientific research buildings, five of which already are in use. The exhibit was shown at the Museum of Modern Art, New York, for five months prior to the Chicago showing.

Awards Announced

Two veterans, architectural students at Carnegie Institute of Technology, have been awarded the Rust Engineering Company prizes for their designs of a plant to produce low-cost housing in large volume.

First prize of $100 was awarded to Lewis D. Klein, of Wadsworth, Ohio, and second prize of $50 to Thomas J. Madden, Jr., of Pittsburgh, Pa. Both designed plants for the Pittsburgh district, embodying recent trends in industrial building capable of being adopted in the foreseeable future, including modern provisions for employee comfort. Each plant is designed to produce 1500 homes per month, constructed of cellular steel panels. Students competing in the project did all original research and made the drawings within a four-week period.

Fellowship Awarded

Ronald A. Dick, of Beckenham, Kent, England, has been awarded a $1500 special fellowship offered to a foreign student by the College of Architecture at Cornell University. The award is for the year 1948–49.

Alternates for the fellowship are: Florian Vischer, Basle, Switzerland; Marcelo Urrets Zavalia, Cordoba, Argentina; and Lloyd E. A. Orton, Melbourne, Australia. Architectural students in 14 countries applied for the grant, which was made from an anonymous fund for the encouragement of study in fine arts.

A graduate of the Ecole Speciale d'Architecture in Paris, the winning candidate is now completing his studies at the Bartlett School of Architecture, London. During the war he was a lieutenant colonel, Royal Engineers, and served in Burma. He has made a special study of airport buildings. The alternate candidates are all graduates of foreign architectural schools.

Traveling Fellows Named

Three recent graduates of the College of Architecture, Cornell University, have been awarded Robert James Eidlitz fellowships of $1000 each for study and travel abroad in 1948–49. They are: Eric Quell, of Forest Hills, N. Y.; Vincent Moscarella, of Brooklyn, N. Y.; and John J. Wallace, of Middletown, N. Y.

Established in 1938 by Mrs. Sadie B. Eidlitz of New York City in memory of her husband, a Cornell graduate of 1885, the Eidlitz graduate fellowships in architecture are awarded each year to exceptionally promising graduates to supplement their professional training through advanced study and travel.

All three winners have their plans well in hand. Eric Quell, whose special interest is in civic and cultural buildings such as museums, auditoriums and libraries, will study design at the Eidgenoessische Technische Hochschule in Zurich, Switzerland. Vincent Moscarella plans to register as a student in the Faculty of Architecture, University of Rome, and will study recent planning and housing techniques used in the reconstruction of devastated areas in Italy. John Wallace will go to Sweden for graduate work in architectural design at the Royal Academy of Art, Stockholm.

(Continued on page 170)

VERMONT MARBLE . . .

Masterpiece of enduring dignity and beauty

United States Post Office, Court House and Custom House, Albany, N. Y.—Eureka Danby marble exterior. Gander, Gander & Gander, Architects, Albany, N. Y.

McGregor Mausoleum, Wichita Falls, Texas—Imperial Danby marble. William Henry Deacy, Architect.

From the scenes of his earlier years of accomplishment a man may go to his final resting place always sheltered and dignified by marble of enduring beauty.

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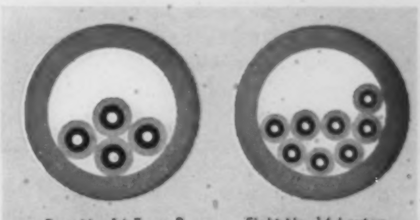
PERFECT CENTERING

So says Mr. USRUBBY, the Wire Engineer. And you, Mr. Architect, will agree with him. For when you specify U. S. Laytex RU, you are getting a wire that will not suffer from the dangerous thin spots formed on ordinary wires. Why? Because United States Rubber Company's unique dip or pass method applies the insulation in *perfectly uniform* layers. Moreover, this insulation is 90% pure rubber, unmilled in order to preserve its high physical qualities. The extra strength of natural rubber, plus a strong fibrous cover and special finish gives extra protection against mishandling, sharp bends, moisture and flame.

90% NATURAL RUBBER INSULATION



Four No. 14 Type R wires fit in ordinary conduit

Eight No. 14 Laytex Type RU wires fit in same size conduit

SMALL DIAMETER

Yet, despite the unusual safety features of Laytex RU, this wire is smaller in diameter and lighter in weight than any other natural rubber covered wire on the market. Not only is Laytex unsurpassed in physical and electrical qualities, but it will also permit *more wires per conduit.*

The tensile strength of Laytex RU is over 7 times that of Type R, and twice that of Type T. Its insulation resistance constant is over 3 times that of Type T, and over 8 times that of Type R. Add all these advantages up, and no wonder Laytex RU is the finest building wire on the market today.

U. S. Laytex RU is labeled by the Underwriters' Laboratories and listed in the National Electrical Code as an all-purpose wire. Send for a sample and free booklet. Write Wire and Cable Department, United States Rubber Company, 1230 Avenue of the Americas, New York 20, N. Y.

**Reg. U. S. Pat. Off.*

RU wiring with **RU?**

U.S. LAYTEX RU
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A PRODUCT OF
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TOURS ANNOUNCED

To Europe

Following its successful 1947 European Reconstruction Seminar, World Studytours has announced a similar project for this summer. Intended primarily for specialists and advanced students in the fields of regional and community planning, housing and architecture, the tour will enable intensive on-the-spot study of specific reconstruction, planning and building programs in two West and two East European countries.

The 5½-week itinerary will cover England, Czechoslovakia, Poland and Sweden. The group will meet with officials, planning and building specialists and professional and consumer organizations. Conferences will be combined with field trips to devastated areas, reconstruction and new town sites, specific housing and building projects, and building industry enterprises. Leader of the travel seminar will again be Hermann H. Field, A.I.A.

The group will leave on July 16, returning on September 9. For further information, address World Studytours, Columbia University Travel Service, New York 27, N. Y.

Through the U.S.A.

Another travel seminar announced by World Studytours and the Planning and Housing Division of the School of Architecture, Columbia University, is a tour to selected urban areas in the United States. This is a Columbia University Summer Session course in planning, and may be taken for credit toward a degree.

The itinerary for the six-week tour covers New York City, Philadelphia, Baltimore, Greenbelt, Washington, Williamsburg, Richmond, TVA, Knoxville, Louisville, Cincinnati, Chicago, Milwaukee, Detroit, Toledo, Buffalo and Albany. Travel will be by private automobile, and enrollment will be limited to about 20 persons. The tour starts on July 6.

ELECTIONS, APPOINTMENTS

Prentice Bradley, of Pittsfield, Mass., has been named technical consultant to the Producers' Council. Mr. Bradley, a practicing architect, will assist the Council in the further development of modular coordination and in the engineering of typical buildings, and will advise on research and technical matters. He also will serve as technical secretary of the American Standards Association's Committee A-62 for the coordination of dimensions of building material and equipment. He is a member of the firm of Bradley & Gass, Architects, of Pittsfield, Mass.

E. A. Pratt, consulting engineer of New York City, has been appointed the representative of the International Organization for Standardization in its relations with the Economic and Social Council of the United Nations.

At the annual meeting of the Wood Fiber Blanket Institute in March, R. B. Sawtell, sales manager of the Kimsul Division of Kimberly-Clark Corp., was re-elected president, and J. D. Fischer, manager of specialty products sales of the Wood Conversion Co., was elected secretary-treasurer.

The Institute is composed of Kimberly-Clark Corp., Masonite Corp., and Wood Conversion Co.

"HOME WEEK" PLANNED

A "National Home Week," emphasizing the progress being made in meeting the housing need, will be conducted throughout the country the week of Sep-

(Continued on page 172)

A Schlage Installation because...

Schlage is convenient

When they planned their home, the Montgomerys didn't know one kind of lock was more convenient than another. But their Architect did. The Schlage locks he specified have provided them with finger tip locking convenience, and automatic unlocking when leaving a room.

See Schlage in Sweets Architectural File

Locks by
SCHLAGE

SCHLAGE
LOCK COMPANY
SAN FRANCISCO NEW YORK

ORIGINATORS OF THE CYLINDRICAL LOCK

On windy spring days . . . nothing stops entrance drafts like a revolving door . . .

HOTEL SYRACUSE
HOTEL SYRACUSE HOTEL

Get an airplane through a hotel entrance? Architect J. Gordon Lippincott & Co. did it . . . by using Revolving Doors!

To the enterprising Syracuse Hotel in upstate New York, revolving doors are nothing new. They've been providing smooth traffic flow and insuring lobby comfort here since 1923. The old doors were recently replaced with three modern, specially designed all-glass models, constructed of hollow stainless steel. As specified by Architect J. Gordon Lippincott & Co., the two-door entrance (above) has movable enclosure walls to permit passage of large objects—even automobiles and airplanes—for display in the lobby. Its extraordinary features open bright new possibilities in entrance design and usage. You, too, may have difficulties that can't be overcome by ordinary entrance doors. International's designers know entrance problems and have the capacity and imagination to tackle tough jobs . . . and lick 'em. Let them help you and your architect. A request on your letterhead will do the trick.

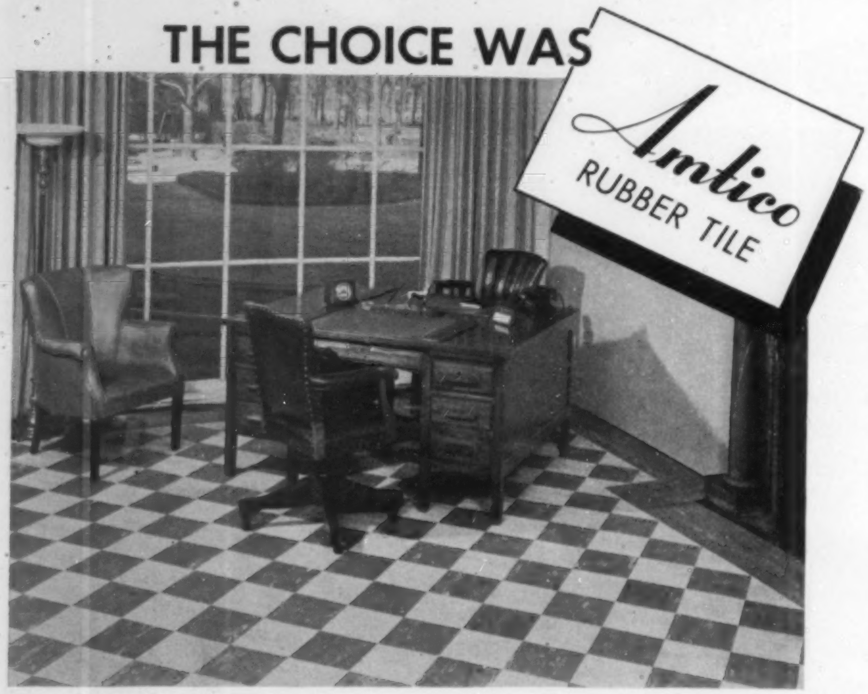
REVOLVING
INTERNATIONAL VAN KANNEL
DOORS

DIVISION OF INTERNATIONAL STEEL CO., 1606 EDGAR ST., EVANSVILLE, IND.

tember 5, the National Association of Home Builders has announced.

On-site demonstrations of modern home building methods used by the industry, completed houses, tours of large-scale housing projects, exhibitions of homes and apartments in all phases of planning and construction through completed jobs will be featured in local observance of the week.

"Home builders are meeting the housing shortage on all fronts with an amazing production of homes," Milton Brock, Los Angeles builder and president of the N.A.H.B. said in announcing the plans. "We have been turning out houses at the rate of 6½ completed homes every working minute of every day — 401 houses per hour. . . . We think the people of the nation ought to understand the tremendous change that has taken place in the housing outlook, and should see for themselves how the job is being done."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Made of Amtico Rubber, it has all the beauty of marble, plus carpet-like quiet and comfort underfoot. The smart design combinations are almost unlimited.

FOR QUALITY

There is no substitute for quality. When planning this new office, the architects naturally chose Amtico Rubber Tile, knowing they were specifying a floor of lasting satisfaction.

FOR SERVICE

Bright, new looking floors are essential to good business. Amtico Rubber Floors keep their new appearance through the years, for there is no better flooring material. Whether for an "acre," or a powder room, here is the floor for long life—the floor to give constant satisfaction to your clients.

Pioneers in the manufacture of rubber flooring for over 30 years

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SEND FOR YOURS

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NAME..

ADDRESS...

GERALD A. HOLMES, A.I.A.

1887–1948

Gerald Anderson Holmes, architect, well-known, respected and beloved by his contemporaries, died April 19th in his home at 126 East 19th Street. For the past six years he had been assistant superintendent of school building for New York City in charge of architectural design.

Born in Philadelphia, he was a son of the late Gerald Holmes and the former Margaret Wellwood Anderson. Mr. Holmes received a Bachelor of Science degree in architecture from the University of Pennsylvania in 1908, and then spent two years in the office of Day & Klauder, Philadelphia architects.

In 1910 Mr. Holmes came to New York and entered the office of McKim, Mead & White, where he remained for thirteen years. He became a member of Thompson, Holmes & Converse of this city and Rochester, N. Y., in 1923 and continued this partnership until 1938. During the next four years he was active in school design associated with the New York Board of Education.

Mr. Holmes designed the Bellevue Psychopathic Hospital and buildings for City College and Hunter College. He was associated with the designing of the Civic Center and Municipal Building in Rochester; the Hotel Carling in Jacksonville, Fla.; the Hotel Andrew Jackson in Nashville, and others.

Among the private residences designed by him are those of Rogers Caldwell in Nashville, Tenn.; Frederick G. Crane, Jr. in Dalton, Mass.; and Edgar V. O'Daniel in Bronxville, N. Y.

A former chairman of the Education and Civic Design Committees of the New York Chapter of the American Institute of Architects, Mr. Holmes was vice-president of the chapter in 1935–36, and was a member of the executive committee for six years. In 1939 he was elected a fellow of the American Institute of Architects in recognition of his "public service, untiring and constructive interest in his profession, and the excellence of his work." He gave unstintingly of his time and effort to the cause of better architecture and his sound and friendly counsel was often sought by his fellow practitioners.

In 1934 he was a member of the Architects' Emergency Committee, which raised funds for unemployed architects and draftsmen. He had given lectures at the University of Pennsylvania and was visiting architect to Princeton University. Mr. Holmes belonged to the Century Association and the Architectural League of New York.

IN THE HAND . . . . .

An Overhead Concealed Door Closer and a Floor Concealed Closer Cost About the Same

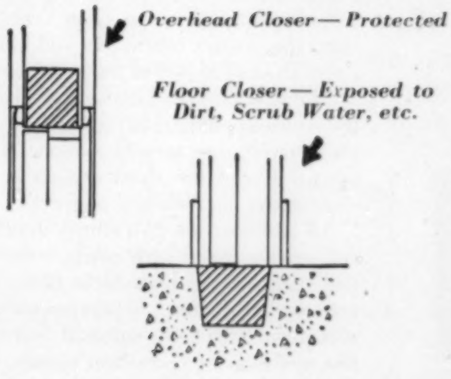
INSTALLED . . . . . .

An Overhead Concealed Door Closer Costs Less

BECAUSE OF:

1. No cutting of floors
2. No trouble with beams or conduits
3. No special thresholds
4. No expensive moves
5. No extra door holders
6. No extra shock absorbers

IN THE LONG RUN . . . . .


Overhead Closer—Protected
Floor Closer—Exposed to Dirt, Scrub Water, etc.

An Overhead Concealed Closer Costs Much Less!

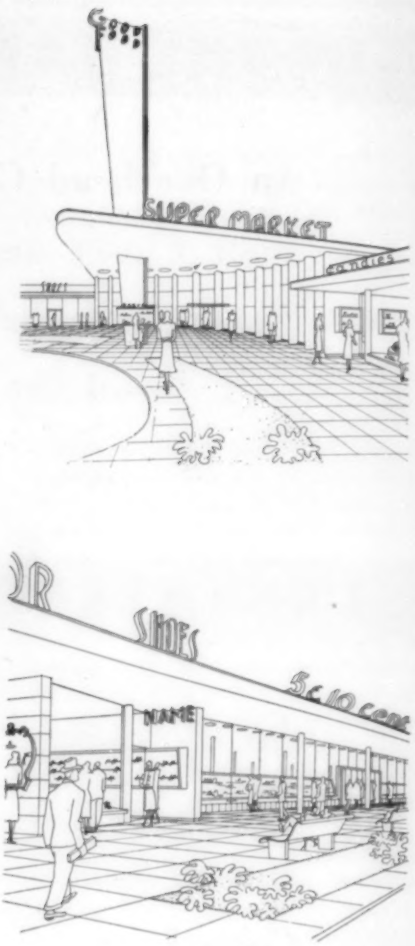
The simple cross-section diagrams at left show clearly the big reason why overhead concealed door closers cost so much less than floor concealed closers *for maintenance.* No closer in the floor can escape the destructive effects of fouling with floor dirt, scrub water, etc. (We know, for we make floor type closers, too — some of the finest.) The closer concealed over the door, within the head frame, is protected from such harm. It lasts longer, calls for much less servicing, does a better job mechanically, costs far less in the long run. The LCN catalog 11-a gives a wealth of detailed information on good door control. We'll gladly send you one on request. LCN Closers, Inc., 466 W. Superior St., Chicago 10, Ill.

LCN Overhead and Floor Type Concealed *and* Surface Type Door Closers

Designed by Kelly and Gruzen, architects of New York and Jersey City, the center will provide parking for 2500 cars, and has in reserve parking space to meet any future requirements. In addition to the department store — which will be the largest in Bergen County — and the market, there will be five large chain store super-units, drug and furniture stores, and a personal service unit combining dry-cleaning, tailoring, laundering and shoe repair.

There will be 30 smaller specialty shops with an overall uniformity of architecture, but each will be individually designed for the particular tenant. Other features will be a restaurant, a cocktail lounge, a nursery-florist, a bank, and professional offices.

The owner-builder of the project is the N. T. Hegeman Co. of New York. Michael M. Burris and Associates, consulting engineers, of Englewood, are in charge of the site development.



Shops in Bergen County project

Apartment Village

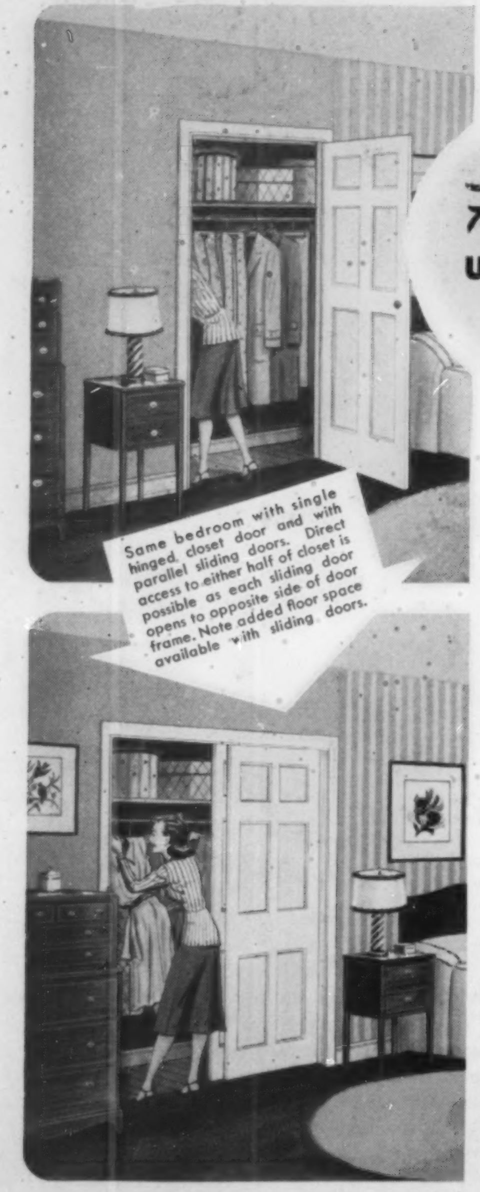
A self-contained village of garden apartments, with modern department stores, a theater, library and public school, is now under construction on Long Island just within New York City limits. Known as Glen Oaks Village, the project ultimately will house a population of 15,000 in 3800 apartments.

The first two sections of the development, comprising 576 and 2342 units respectively, are largely completed and occupied, and the third section is now undergoing preliminary surveys.

All buildings are two stories in height, red brick veneer with white trim, and Colonial in style. Four-fifths of the 175-acre site are devoted to playgrounds and recreation areas. An unusual feature is the inclusion of recreation rooms, with completely outfitted kitchens, for use by tenants entertaining friends. Day nursery facilities, workshops, and photographic dark rooms are also provided.

To heat the project there will be 40 boiler rooms, each serving from 32 to 76 apartments units. Each will be equipped with two Pacific boilers (Pacific Steel Boiler Division, United States Radiator Corp.). A one-pipe forced hot

(Continued on page 176)


For more "Living" room
USE VANISHING DOORS

Same bedroom with single hinged closet door and with parallel sliding doors. Direct access to either half of closet is possible as each sliding door opens to opposite side of door frame. Note added floor space available with sliding doors.

Whether the job calls for tiny kitchenette apartments or a palatial mansion, there's no getting around one fact—hinged doors waste space! That is why more and more residential building plans specify vanishing doors for closets, wardrobes, connecting rooms, etc.

With vanishing doors, sliding from side to side, there's no interference with the location of furniture, lighting fixtures, pictures, rugs—nothing in the room gets "behind the door." Used for closets and wardrobes, they permit direct access to entire contents without fuss or bother.

SPECIFY R-W VANISHING DOOR HANGERS AND WOOD-LINED TRACK

For smooth, silent, trouble-free operation, specify vanishing doors installed with Richards-Wilcox No. 719 Vanishing Door Hanger and Wood-Lined Steel Track. No oiling required . . . hanger wheel has Olite self-lubricating bearing, rolls on self-centering woodtrack lining without metal-to-metal contact.

FOR USE IN 2" x 4" STUDDED WALLS

Richards-Wilcox No. 719 Vanishing Door Hangers and Wood-Lined Steel Track are designed for use in 2" x 4" studded walls. This outstanding feature is made possible by the R-W engineered "Ordinary Wall" pocket.

For complete details—or free consultation without obligation—call or write the nearest Richards-Wilcox office.

1880 RICHARDS WILCOX R-W AURORA 1948
OVER 68 YEARS

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AURORA, ILLINOIS, U.S.A.
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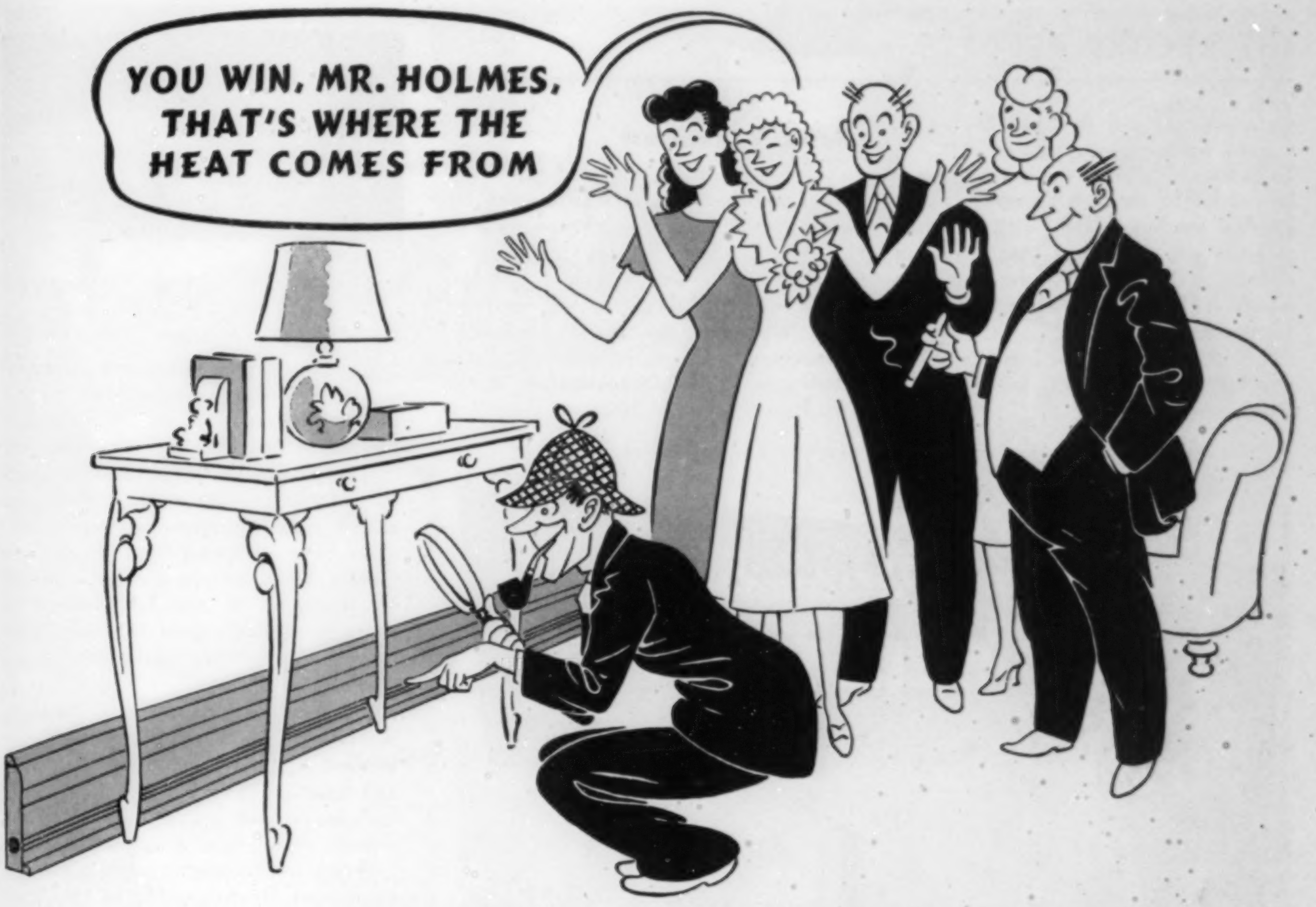

YOU WIN, MR. HOLMES, THAT'S WHERE THE HEAT COMES FROM

Solving the Problem of INCONSPICUOUS *Radiant Heating*
with BASE-RAY RADIANT BASEBOARDS

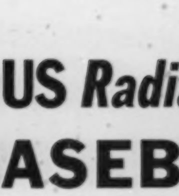
Homes heated with BASE-RAY* offer the obvious advantages of *radiant panel heating* in its simplest form. When painted to match trim or walls, Burnham's Radiant Baseboards are practically invisible—and so completely out of the way they don't interfere in the least with the placement of furniture and furnishings. They provide a room-long source of clean, even, draft-free Radiant Heat, and can be used with any Hot Water, Two-Pipe Steam or Vacuum System.

BASE-RAY requires no special and costly structural changes. Instead of being embedded in floors or ceilings, they are installed at the bottom of outside walls where they are completely accessible should repairs to the heating system be necessary at any time.

Burnham BASE-RAY Radiant Baseboards are a proven product. They have demonstrated their utilitarian and decorative appeal in thousands of homes during the past 3 years. Our advertising in national magazines such as Better Homes & Gardens, American Home, House Beautiful, House & Garden and Small Homes Guide will continue to point out to Mr. & Mrs. Home Owner the reasons why BASE-RAY offers the best in Radiant Heating.

*Reg. U. S. Pat. Off.

BURNHAM BASE-RAY RADIANT BASEBOARD



Mail coupon below for Booklet which gives ratings and installation data on BASE-RAY Radiant Baseboards.

NOW! Increased Base-Ray production reduces delivery time.

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Burnham Corp., Boiler Division Dept. AR-68
Irvington, New York
Please send me copy of "Ratings and Installation Guide" on BASE-RAY Radiant Baseboards.
Name ....
Address ....
City.................... State............

water system will find heat outlet in Capitol thin-tube radiation (U. S. Radiator Corp.), and the hot water will be conducted through an underground Ric-Wil conduit system, with radiators piped-in off the main. Automatic in operation, the system will be figured on a basis of 200° F. water when the outside temperature is 0° F.

Gross-Morton Co. are builders of the development; architect is Benjamin Braunstein.

Research Laboratory

Construction is expected to begin soon on a large research laboratory for the Portland Cement Association in Skokie, Ill., just north of Chicago.

Designed by Carr & Wright, Chicago architects, the laboratory will comprise two architectural concrete buildings connected by a covered walkway. Total floor area will be approximately 98,000 sq. ft.

Proposed concrete research laboratory

The group will contain more than 25 specialized laboratories, moist curing rooms, fog rooms, low temperature rooms, freezing and thawing rooms, all equipped with the most modern scientific apparatus obtainable, including a million-pound compression testing machine. The steaming heat of African jungles, desert dryness or Arctic cold will be simulated in the laboratories to facilitate research into the durability of concrete structures under all climatic conditions.

Interior partitions will be of concrete masonry; concrete subfloors will be finished with terrazzo, composition tile and mastic. Special room treatments include precast granites and marble, cement plaster and acoustical ceilings. Lighting will be both incandescent and fluorescent. Heating will be by tempered air.

Plans also call for an auditorium, technical library, reading room and a cafeteria.

Florida High School

Under construction at Hollywood, Fla., is the $1,500,000 South Broward High School, designed to accommodate 1500 students. Architects are Clinton Gamble Associates of Fort Lauderdale and Bayard C. Lukens of Hollywood.

The school will consist of 11 buildings connected by loggie, nine of them devoted to classrooms. The two-story administration building will have a four-story tower; the three academic classroom buildings and the industrial arts building will be single-storied, the science and home economics buildings two-storied. All will be hurricane proof, with steel bar joist roof support, 15-year bonded built up roofs, awning type windows. Separate buildings will house the auditorium and gymnasium, seating 1500 and 800 respectively.

Spinning Mill for Burma

The Union of Burma, through its ambassador, I. So Nyun, has employed Lockwood Greene Engineers, Inc., of New York, as consulting and supervisory engineers for erection and layout of Burma's first cotton spinning and weaving mill, which will cost about $3 million when completed. It will be equipped with 20,000 spindles.

(Continued on page 178)

THE *Outstanding* PACKAGE
SELLS *Today!*
L. B. SMITH
MOTOR CORPORATION
COPING
HEAD
SILL
BASE
COPINGS
WALL SECTION
JAMB SECTION
ARCHITECTURAL DETAILS
THE ERIE ENAMELING CO.
ERIE, PA.
ERIE
see our CATALOG in SWEET'S FILE
PORCELAIN
ENAMEL

ARCHITECTURAL PORCELAIN ENAMEL
***Attracts* TRADE . . . *Boosts* SALES**

Clean, colorful architectural porcelain enamel buildings attract trade for hard-to-package bulk goods. The first impression of the passer-by is, "that looks like a good place to stop". Architect's drawings are the basis for our quotations and the subsequent entire fabrication and erection of "Modern Packaged" buildings in Architectural Porcelain Enamel that offer these advantages.

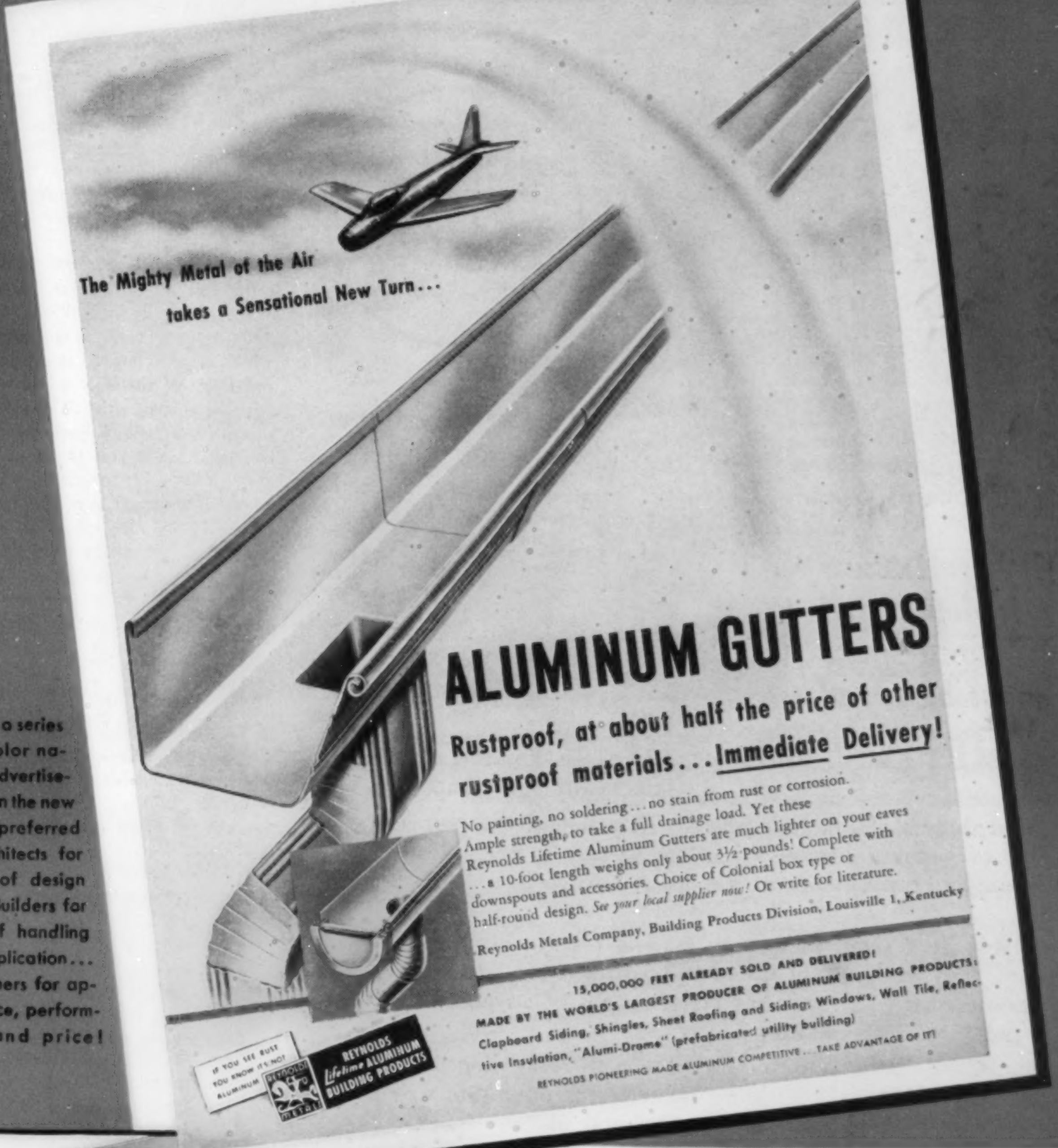
1. All colors and textures.
2. Multitone colors.
3. Any shape or form.
4. Light weight.
5. Permanent resistance to weather.
6. Application to masonry or steel.
7. Easy thorough cleaning.
8. Everlasting beauty and utility.

Erie Architectural Porcelain Enamel is ideal for Service Stations, Store Fronts, Restaurants, Food Stores, Offices, Factory Buildings.

WRITE *Today* FOR THIS BULLETIN

THE ERIE ENAMELING COMPANY
ERIE, PENNSYLVANIA
Member of Architectural Division Porcelain Enamel Institute.

At about half the price of other rustproof gutters
...nationally advertised...
ample supply available now!


The Mighty Metal of the Air takes a Sensational New Turn...

ALUMINUM GUTTERS

Rustproof, at about half the price of other rustproof materials . . . Immediate Delivery!

No painting, no soldering . . . no stain from rust or corrosion. Ample strength, to take a full drainage load. Yet these Reynolds Lifetime Aluminum Gutters are much lighter on your eaves . . . a 10-foot length weighs only about 3½ pounds! Complete with downspouts and accessories. Choice of Colonial box type or half-round design. *See your local supplier now!* Or write for literature.

Reynolds Metals Company, Building Products Division, Louisville 1, Kentucky

15,000,000 FEET ALREADY SOLD AND DELIVERED!

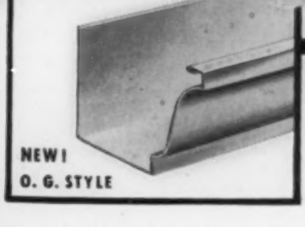
MADE BY THE WORLD'S LARGEST PRODUCER OF ALUMINUM BUILDING PRODUCTS: Clapboard Siding, Shingles, Sheet Roofing and Siding; Windows, Wall Tile, Reflective Insulation, "Alumi-Drome" (prefabricated utility building)

REYNOLDS PIONEERING MADE ALUMINUM COMPETITIVE . . . TAKE ADVANTAGE OF IT!

IF YOU SEE RUST YOU KNOW IT'S NOT ALUMINUM

REYNOLDS *Lifetime* ALUMINUM BUILDING PRODUCTS

One of a series of 4-color national advertisements on the new gutters preferred by Architects for choice of design . . . by Builders for ease of handling and application . . . by Owners for appearance, performance and price!

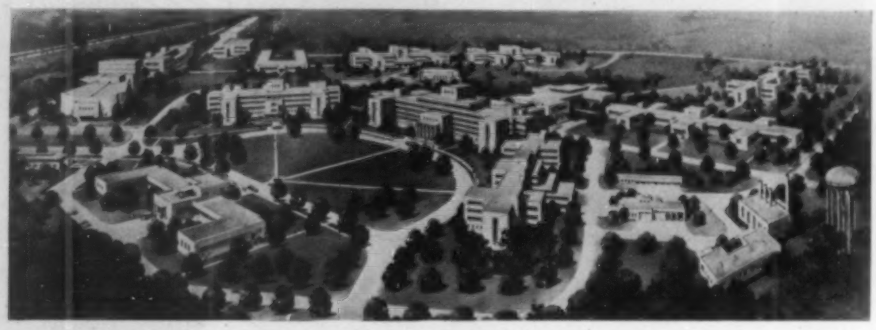

NEW!
O. G. STYLE

More than 15,000,000 feet already sold!

Write for illustrated A. I. A. File brochure!

REYNOLDS METALS COMPANY, BUILDING PRODUCTS DIVISION

Louisville 1, Ky.—Offices in 32 principal cities



SEA VIEW HOTEL
Miami, Florida
Architect: Roy France
Builder:
Feldman Const. Co.

Where luxury is demanded and space must be saved

MURPHY-CABRANETTE KITCHENS
PORCELAIN ON STEEL

Only in these remarkable kitchens will you find the permanent beauty of genuine vitreous porcelain so easy to *keep* clean . . . the complete convenience of a modern kitchen in such compact space.

Available in 4 sizes, these new models feature electric refrigeration with push-button doors and frozen food compartments of stainless steel . . . gas or electric ranges of advanced design . . . one-piece sink-and-range tops.

Tenants are quick to tell you how well they like Murphy-Cabranette Kitchens. Building owners and operators will tell you of their trouble-free operation and their negligible cost of maintenance.

Write for new catalog now in process.

DWYER PRODUCTS CORPORATION
Dept. F5 — MICHIGAN CITY, INDIANA

VA Hospital

Construction of a new 1089-bed VA hospital in Houston is scheduled to start this summer. The $18 million project, consisting of 23 buildings covering all branches of medicine, will provide facilities for general hospitalization and rehabilitation. Architect is Kenneth Franzheim.

Building to House X-Ray

Recently completed at the Barberton, Ohio, plant of the Babcock & Wilcox Co. is a building especially designed to house a 2,000,000-volt x-ray machine used to examine the welds in high-pressure, high-temperature boiler drums.

The 70 by 30-ft. building was designed to give complete protection against x-rays and at the same time to give full freedom of movement in examining the largest pressure vessels built by the company. It will accommodate drums up to 13 ft. in diameter and 70 ft. in length.

Walls are of concrete, with a maximum thickness of 40 in., decreasing to 9-in. thickness toward the top of the 32-ft. room. Access to the control room, which is an extension on one side of the building, is through a concrete maze with walls 40 in. thick. The 120-ton x-ray room door moves horizontally on an overhead track and the floor along the doorway is raised to fit into an upward curve in the bottom of the door so that no x-rays can pass under the door when it is closed. A safety switch within the control room makes it possible to halt operations in case a workman finds himself in the room at the time testing is to begin.

Housing Development

To help ease the housing situation in Cambridge, Mass., Harvard University has announced plans for the building of a garden housing development on the present site of the University's Botanical Garden.

The development will provide housing for 123 families in one- and two-family houses and garden apartments. It will be financed from University endowment funds as an investment enterprise.

Des Granges and Steffian of Boston, architects for the project, have planned the development to preserve a maximum number of the Garden's unusual collection of trees and shrubs. The famous Gray Herbarium, center of the Garden, will be preserved as a research center.

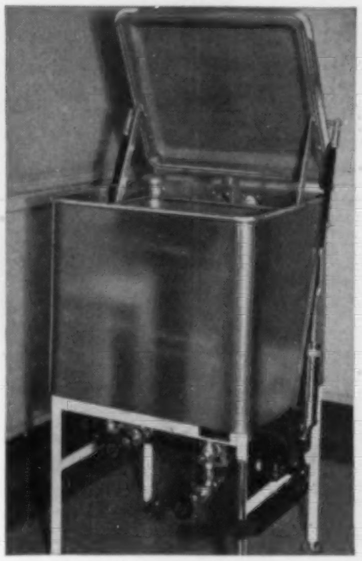
Plans call for three one-family houses and a group of two-family houses as well as a series of four apartment house courtyards. Family entrances of all buildings will open on the courtyards, and delivery entrances will open on the surrounding streets and the driveways of the development. Garage facilities will be provided.

1. DESIGN is the idea—the First Essential.

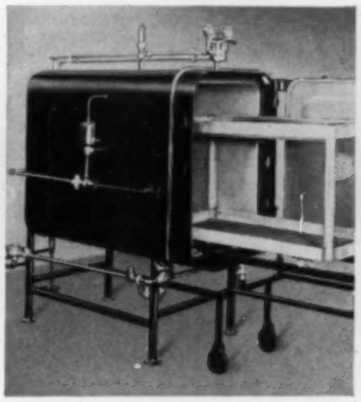
2. WORKMANSHIP is the human touch of the craftsman. It is the Second Essential.

3. MATERIAL is the Third Essential. Upon it depend the efficiency and service-life of the product which Design and Workmanship have evolved.

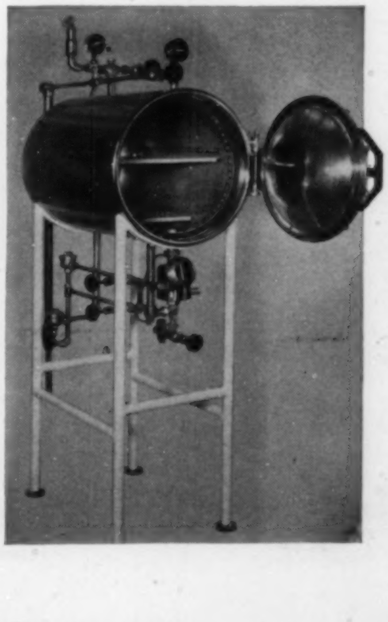
You need all 3 ESSENTIALS for the BEST in Sterilizers



Boiling Type Sterilizer *for utensils. American produces body, cover and tray in solid, rustproof, easy-to-clean Monel. Available in steam-, gas- or electric-heated models.*



Rectangular Built-in Sterilizer *made by American of Nickel-clad steel. Dimensions: 24" x 36" x 48". Same model also available in Monel-clad steel.*



For This Laboratory Autoclave, *as well as for other models, American Sterilizer Company standardizes on solid, corrosion-resistant Monel.*

EMBLEM OF SERVICE INCO TRADE MARK

"AMERICAN" makes its 3rd Essential... MONEL

...STANDARD METAL OF THE MODERN HOSPITAL

Here are sterilizers you can confidently recommend to your clients.

Made by AMERICAN STERILIZER COMPANY, Erie, Pa., they're well-designed... well-built. Besides *they're made of a metal that means long, trouble-free service.*

For AMERICAN has given these units the "life insurance" of Monel.*

And Monel is more than merely "a rustproof metal."

It is stronger and tougher than structural steel. It stands up against heat, steam and moisture. It resists corrosion by acids, alkalies and a wide range of hospital solutions.

Monel is solid metal, too. It has no surface coating to chip or crack. Nothing to peel off. Nothing to wear away, exposing a harder-to-clean base metal. Severe and continuous use cannot dim the attractive, satiny lustre of Monel. *Its excellence goes all the way through.*

AMERICAN produces a full line of Monel *non-pressure* instrument and utensil sterilizers in addition to *pressure* instrument and dressing sterilizers, milk formula sterilizers, laboratory autoclaves and all-purpose sterilizers.

Remember this combination in AMERICAN products: Design, Workmanship and *Monel construction.*

You do your hospital clients a lasting service when you incorporate the words *Monel construction* in your specifications for sterilizers and other equipment.

THE INTERNATIONAL NICKEL COMPANY, INC.
67 Wall Street, New York 5, N. Y.

*Reg. U. S. Pat. Off.

(*Continued from page 145*)

When slabs are used as the entire wall they are coated on both sides at the factory with Portland cement and placed between 4 in. by 4 in. studs. The slabs are held in place by vertical battens nailed to the studs, and joints are mortared or caulked with a mastic.

Durisol slabs are reported to have five times the insulation quality of brick, to be fire-resistant, to be effective sound absorbers; the slabs are said not to be attacked by rats or termites and prevent condensation and fungus formation.

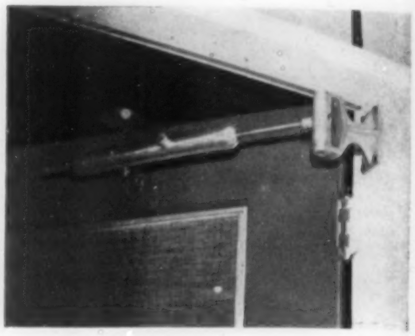
Slabs 2 in. thick weigh 7 lb. per sq. ft. and 5 in. hollow cored slabs weigh 15 lb. per sq. ft. Durisol, Inc., 420 Lexington Ave., New York 17, N. Y.

DOOR CLOSER

By using brake lining as the control medium, a new door closer has been developed which is said to provide smooth, silent operation without need for maintenance.

In the *Brake-O-Matic* a brake shoe rides on a movable rod which is mounted in an aluminum tube. By adjusting the pressure of the brake shoe on the rod the speed of closing can be controlled or the door may be locked in position.

Contained in the end of the aluminum tube is a coil spring which acts as a shock absorber to prevent damage to the door and door closer when the door is slammed.



Door closer uses brake lining principle

The Brake-O-Matic can be used for pull-close and flush-type installations and for right- and left-hand doors.

The standard yoke model can be used for screen, storm and medium weight interior doors. The torpedo model has greater brake lining surface area and can be used for kalamein, hollow metal and other fireproof doors. Mitchell-White & Co., 12 E. 22nd St., New York 10, N. Y.

Injector rings increase fan's efficiency

HOME FAN FOR COOLING

A revolutionary portable fan that is designed to deliver 87 per cent more cooling air than standard fans of the same size is now in production at Westinghouse Electric Corporation.

Boosting the 16-in. fan's moving power to the level of a 20 or 24-in. fan has been accomplished by designing

(*Continued on page 182*)

THIS TELLS YOU HOW TO GIVE SAFE EXIT TO CORROSIVES

This new, 12-page bulletin tells you how, why and where you should use Duriron acid-proof drain equipment for corrosive wastes.

DURIRON
ACID PROOF
FOR CORROSIVE WASTE DISPOSAL SYSTEMS
THE DURIRON CO., INC. DAYTON 1, OHIO
DURIRON IN THE CHEMICAL LABORATORY

The booklet first tells you about Duriron; its composition, advantages, physical properties and corrosion-resisting ability. This high-silicon iron is compared with other materials and its superiority for handling corrosives is shown in dramatic visual form.

A handbook on Duriron drain line material for handling corrosive wastes, the bulletin gives engineering data, sizes, dimensions and drawings of the various pieces of Duriron equipment . . . instructions on how to install . . . information on application in chemical laboratories, industrial installations, engraving plants and other places where corrosives are handled. Installation photos and a partial list of existing installations in various types of plants are also included.

Today's high cost of repairs makes the Duriron drain line installation even more economical than ever.

Find out how you can protect your waste disposal system against costly corrosion. Write for this new, free bulletin today. Ask for Bulletin 703.

THE DURIRON CO., INC. • DAYTON 1, OHIO
Branch Offices in Principal Cities

DURIRON
ACID PROOF
DRAIN PIPE

48-GM

The HARMON TECHNIQUE

brings a progressive new era in classroom interiors

ROSEDALE SCHOOL

Classroom modernization by the Harmon Technique produces dramatic results on school children.

For example: Ten months' educational progress was made in only six months . . . important reductions were recorded in eye and nutritional problems . . . and 30% less signs of chronic infection.

The Rosedale school, Austin, Texas, is a classic example of the Harmon Technique and here again the schoolroom walls and ceilings are painted with Luminall paint. Other factors in the Harmon Technique, aside from painting, are lighting, fenestration and seating.

Luminall paint is ideal for painting walls and ceilings in the Harmon Technique. It is highly light-reflective—up to 90.6% for white. It maintains this reflectivity because it does not "yellow" or discolor from age and exposure. It diffuses reflected light thoroughly. The colors are formulated to overcome chromatic aberration. It will do a brightness engineering job in evenly distributing light from whatever source it comes.

Ask for a copy of Dr. Harmon's "LIGHT ON GROWING CHILDREN," reprinted from Architectural Record. On receipt of sketches showing dimensions and details of schoolroom, specifications will be furnished according to the Harmon Technique without cost or obligation. NATIONAL CHEMICAL & MFG. CO., 3617 S. May Street, Chicago 9.

This Rosedale photo is *actually* a demonstration

Here a photographic plate has been exposed rapidly enough to keep 21 youngsters from showing movement—indoors—and without the use of artificial light. Note the clear detail of book covers in rear . . . note clarity of detail under desks . . . note the remarkable evenness of light distribution . . . and notice also the erect easy posture and absence of tension in the children themselves. In such an environment, children can accomplish 10 months' educational progress in 6 months' time. Rosedale school is painted with Luminall.

LUMINALL the light-reflective paint for interiors

(Continued from page 180)

large-surface Micarta plastic blades, more sharply angled than usual, and by adding curved injector rings which surround the blades.

Total air displacement of the fan is reported to be 3000 cu. ft. per minute, compared with 1600 for average 16-in. fans.

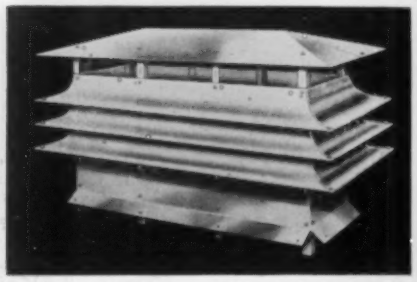
In ordinary fans nearly all of the air drawn to the blades is said to sweep in at the sides. Its direction must be changed by the blades, setting up turbulence which wastes power and blocks air coming from behind the fan.

In the new design, the injector rings, which are curved in the direction of air flow through the fan, turn the side air so that it slides into the air stream without turbulence.

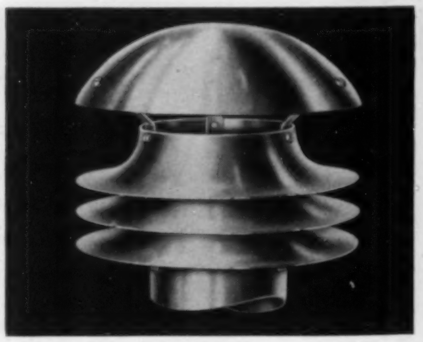
With the *Mobilaire* the homeowner can take advantage of the newly-developed technique for obtaining best cooling results with fans on hot summer nights when outside air is cooler than inside air. This method involves using the fan as an exhaust, blowing air out a window from a point about three feet away.

Otherwise, when a fan is placed in the plane of the window, like conventional window and attic fans, it is reported to lose one-third of its air capacity because entrance of side air is blocked. In one typical test, a 16-in. fan used as an exhaust in the plane of the window produced only a 10° temperature drop in a specified time. When the same fan was used properly, a 14° drop resulted.

The Mobilaire fan is supported by steel tubes which are mounted on a pair of rubber wheels. It weighs 35 lb. and has variable height so that it can be used with windows of different types and heights, with sills from 15 to 39 in. above the floor. Westinghouse Electric Corp., 306 Fourth Ave., Box 1017, Pittsburgh 30, Pa.



Operation of ventilators or flue caps is unaffected by wind direction, turbulence

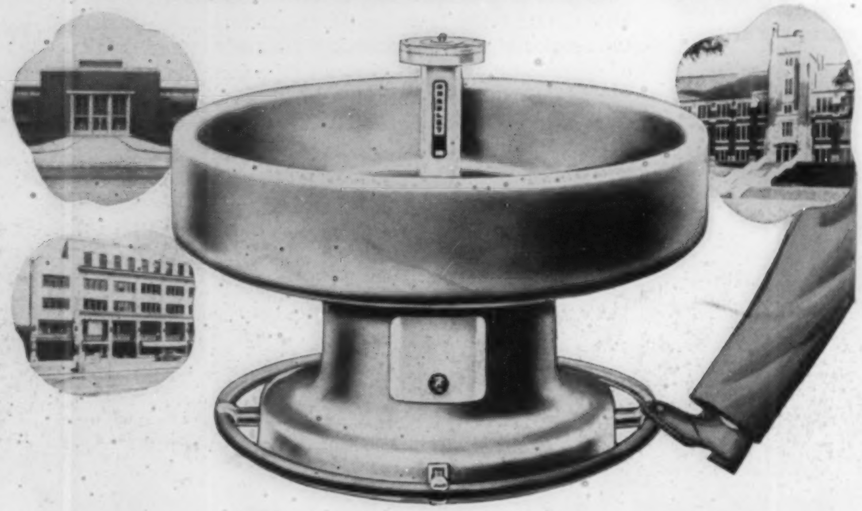


ROOF VENTILATORS

A new principle embodied in roof ventilators and vent flue caps permits efficient operation regardless of variable wind conditions or turbulence caused by obstructions, according to tests completed at California Institute of Technology. Downdrafts are said to be completely eliminated regardless of wind direction.

Air movement past a series of horizontal, stationary vanes having curved surfaces on *Airjet* ventilators and flue caps creates a suction which "pulls out" the stagnant air from the structure.

(Continued on page 184)



EVER-WIDENING USE

Today, Bradley Washfountains are regularly specified in modern washroom planning. For new buildings or additions to present washrooms, Bradleys have the features that make them preferred. They represent the finest in sanitary, economical wash fixtures. They have been used for over a quarter century in factories, schools and institutions . . . Here are

The Features Named Most Important

(1) SANITATION-HEALTH SAVINGS. No faucets to touch—no collection of dirty water—self-flushing drain.
(2) SPACE SAVING. 8 to 10 persons wash simultaneously.
(3) LOWER INSTALLATION COST. Piping connections reduced by 75% or more.
(4) MAINTENANCE SAVINGS. One sprayhead replaces many faucets.

Bradleys are Distributed through Plumbing Wholesalers. BRADLEY WASHFOUNTAIN CO., 2227 W. Michigan St., Milwaukee 1, Wis.

BRADLEY washfountains

Write for illustrated Bradley Washfountain Catalog 4701 . . . a handy book for your reference shelf.

The Name HOPE'S *Guarantees*

1818 WINDOWS 1948

Children's Aid Society Building, Buffalo, N. Y.—James W. Kideney, Architect

The friendly exterior of this building makes the promise that the offices it houses are pleasant in which to visit or work. The major source of this effect is in the fenestration.

Extreme simplicity in much of modern architecture would leave an impression of severity but for the decorative quality of a good window layout.

The versatility of Hope's Windows is most helpful to the architect in securing his exterior effects. Hope's Windows also contribute many advantages to the user of the building . . . maximum daylight, controlled ventilation, trustworthy weather-tightness, positive and convenient operation and a most satisfactory long life without upkeep difficulties.

HOPE'S WINDOWS, INC., *Jamestown, N. Y.*

THE FINEST BUILDINGS THROUGHOUT THE WORLD ARE FITTED WITH HOPE'S WINDOWS

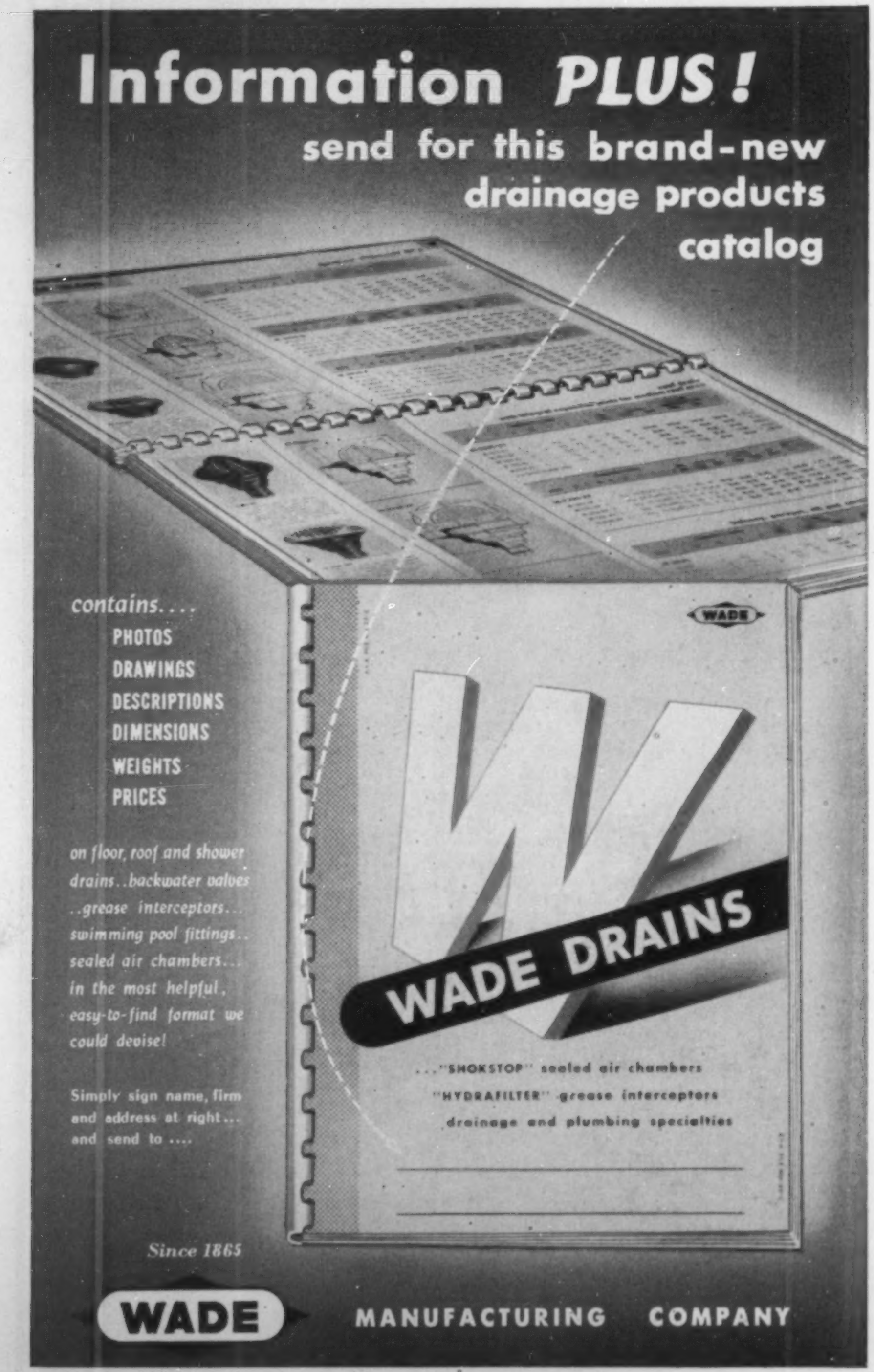
(*Continued from page 182*)

The ventilators are available in square and rectangular shapes; the monitor can be obtained in any length desired. Vent flue caps are available with 4 in. and 6 in. throat dimensions.

None of the ventilators is over 21¾ in. high so that unsightly silhouettes are eliminated.

Airjet ventilators are made of lightweight metal so that even large sizes may be installed without mounting them over trusses. These ventilators require no bases and are designed to be fastened to a 2 in. by 2 in. or larger cant strip with nails. Vent flue caps are fastened with self-threading sheet metal screws to the vent pipe.

The Airjet ventilators can be applied to industrial and commercial buildings and homes. C. R. Gelert Co., 35 N. Raymond Ave., Pasadena 1, Calif. Mfg's. representative: The Halberg Co., 415 Lexington Ave., New York, N. Y.


Information PLUS!
send for this brand-new drainage products catalog
contains....
PHOTOS
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on floor, roof and shower drains..backwater valves ..grease interceptors... swimming pool fittings.. sealed air chambers... in the most helpful, easy-to-find format we could devise!
Simply sign name, firm and address at right... and send to ....
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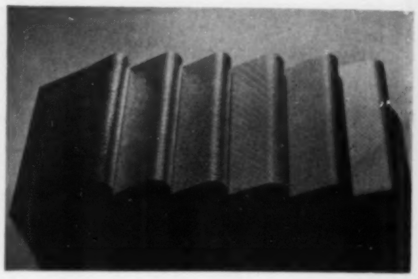
"HYDRAFILTER" grease interceptors
drainage and plumbing specialties
Since 1865
WADE
MANUFACTURING COMPANY
85 NORTH STATE ST. ELGIN, ILLINOIS

EMBOSSED ALUMINUM

An entirely different type of embossed aluminum sheet with patterns such as squares, diamonds, stucco, simulated grain leather and ribs is now available.

The aluminum can be supplied in flat sheet in thicknesses of 0.010 in. to a maximum of 0.040 in. and widths 12 in. to 48 in. Coiled sheet can be furnished in the same thicknesses and in widths ranging from 6 in. to 36 in. Reynolds Metals Co., Louisville, Ky.



Embossed aluminum sheets are now available in a variety of textures and sizes

AUTOMATIC WATER SOFTENER

A time-clock control mechanism has been incorporated in a fully automatic water softener. The clock control may be set at the time of installation and the mineral is regenerated automatically every 24 hours or from one to seven times weekly, depending on individual requirements. No manual attention is necessary beyond periodic salt replacement (two or three times annually).

The mineral or softening agent used is claimed to remove iron compounds from the water, and the automatically daily regenerating process is said to prevent contamination from accumulating on the mineral for long periods which keeps the mineral at maximum efficiency and maintains operating economy.

The daily capacity of 25,000 grains water hardness is reported to handle exceptional domestic water consumption and also service small commercial establishments. Soft-O-Matic Corp., Plymouth, Mich.

BOILER FOR RADIANT HEATING

A packaged boiler unit made especially for use with radiant heating installations, provides water for heating, domestic use and has a built-in air chamber for expansion.

The design of the *York-Heat PBR-7* boiler unit is adapted especially for floor-type radiant heating systems, without sacrificing high-temperature domestic water. There are two boiler sections — a lower, outer jacket and an upper

(*Continued on page 186*)

where hotels use *Non-Slip Floors*

. . . for safety's sake!

Firm-footing is important in many parts of hotels.

Whether behind-the scenes, or out-front, the hazard of slipping is a constant danger to both guests and personnel. Accidents due to slips and falls account for one-fifth of all claims for compensation.

Non-Slip floors are the proved answer.

ELEVATOR SILLS: Feralun* is universally specified by architects for elevator sills to prevent costly accidents.

KITCHEN: Use Amcolun, for safety's sake, in the kitchen where oily or wet conditions frequently occur. Protect your personnel.

SIDE ENTRANCE: We recommend Amcolun—the non-slip abrasive tile—wherever floors present a slippery condition due to "tracking-in."

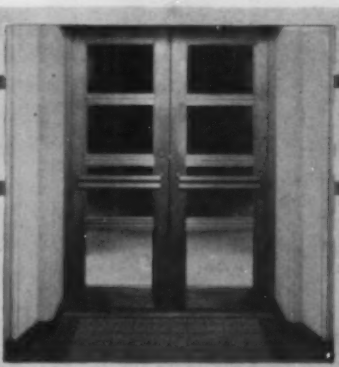
MAIN ENTRANCE: . . . and for exterior steps, we suggest Bronzalun* thresholds and treads.

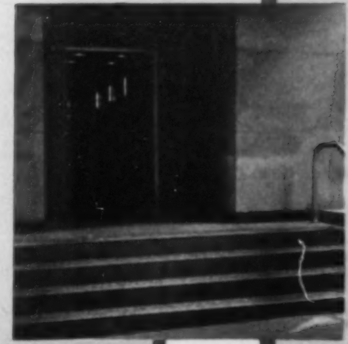
Our Advisory Engineering Service extends to all key cities, offering you a convenient, authoritative source for non-slip flooring information. Meantime, check our non-slip products in Sweet's File, 13a-8.

The American Abrasive Metals Company
IRVINGTON • NEW JERSEY
*Reg. U. S. Pat. Off.

KITCHEN

ELEVATOR SILLS


SIDE ENTRANCE


MAIN ENTRANCE

American Abrasive Metals Co. (AR 6-48)
460 Coit Street, Irvington, New Jersey

☐ For safety's sake, send me your technical data catalog on all your non-slip products.

☐ Please send me the name of your advisory engineer located nearest to me.

My Name .... Title ....
Company ....
Address ....
City .... State ....

(*Continued from page 184*)

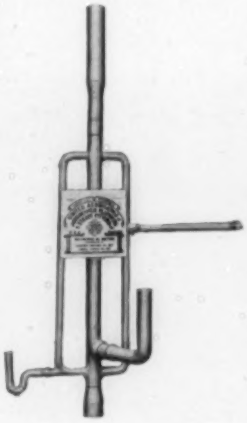
boiler section. Low-temperature water for the radiant heating coils is tapped from the cooler outer jacket, while the hotter upper section supplies high-temperature domestic hot water by means of a long coil.

In radiant heating systems where floor coils are used, conventional boilers are said to be unable to handle the low-temperature requirements for this purpose without a by-pass of mixing valve arrangements. Boilers built especially for this purpose sacrifice the ability to supply high-temperature domestic water.

Built into the top of the boiler is an air chamber which accumulates the air released from the water and provides a cushion for expansion of the water.

Completely self-contained, except for the oil burner which is shipped separately, the new boiler unit is made in two sizes of 81,000 and 110,000 Btu/hr. Rated domestic hot water coil capacity is 3 gpm.

The unit is reported to supply water for radiant heating continuously controlled at 100° F to 130° F. This part of the system is said to be flexible, however, and water temperatures can be varied from as low as 80° F to 200° F — thus the boiler can work equally well in heating systems using radiators or baseboard radiation. York-Shipley, Inc., York, Pa.



Prefab vent stack cuts construction time and saves up to 2 in. of wall thickness

VENT STACK

A prefabricated vent stack which connects with the lavatory, water closet and bath tub is said to reduce construction time and save up to 2 in. in wall thickness without sacrificing the I. D. of the pipe.

The all-welded vent stack is made of steel pipe and *Tube-Turn* welding fittings and is hot-dip galvanized before being delivered to the building site. Tube Turns, Inc., Louisville 1, Ky.

SOUND SYSTEM

The *MS-24* sound system for department stores permits paging announcements and transmission of radio or recorded music to 6, 12, 18 or 24 stations at one time or to selected locations. It has the further advantage of permitting two-way communication between the master station and all remote stations. Any standard radio can be used with the MS-24. The system has power rating of 28 watts. Mark Simpson Mfg. Co., Inc., 28–32 49th St., Long Island City 3, N. Y.

ALUMINUM SCREEN

A new aluminum window screen incorporates a unique tension design which eliminates heavy side frames.

At the top and bottom of the aluminum screening are aluminum bars. A patented device on the top bar is

(*Continued on page 188*)

HOLLOW METAL

MAIN FACTORY AND OFFICES OF JAMESTOWN METAL CORPORATION

5 ACRES OF ONE-FLOOR FACTORY
designed for straight line, efficient production

As specialists in the fabrication of bronze, aluminum, steel and stainless steel, we offer our services wherever hollow metal doors, interior trim, elevator enclosures, cold rolled mouldings and metal specialties are required.

JAMESTOWN METAL CORPORATION
104 Blackstone Avenue Jamestown, N. Y.

INCONSPICUOUS SAFETY - because

Fire Protection WAS PLANNED FROM THE START

Grinnell Engineers Are Always Ready To Help You Plan Fire *Protection* As A Blended Part of Functional Design.

Experienced architects know that nearly every kind of building needs fire protection. For even though the structure itself may be so-called "fireproof", its contents are not.

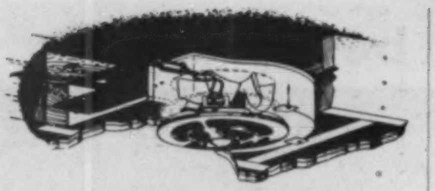
For the sake of retaining attractive interiors, the time to plan for fire protection is at the start — with a Grinnell Automatic Sprinkler system. While your plans are still in the drafting stage, get in touch with Grinnell, for there is a Grinnell System to meet the design requirements of every type of commercial, industrial, and institutional building. Grinnell engineers, long experienced in working with architects, are always ready to help you. Grinnell Company, Inc., Providence 1, R. I. Branch Offices in Principal Cities.

GRINNELL

FOUNDED 1850

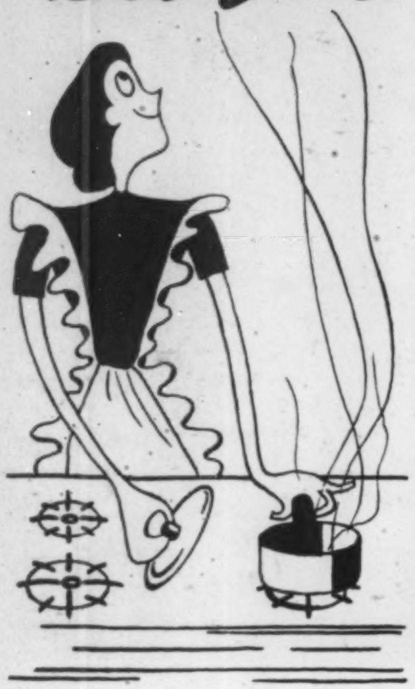
Automatic Sprinkler Fire Protection

A BLENDED PART OF YOUR BUILDING'S DESIGN



WOMEN LOOK UP TO

Blo-Fan



BLO-FAN equipped kitchens benefit Mrs. Housewife 6 ways. Ask the woman who has one.

1. Ceiling installation, directly over the range, where a fan belongs.
2. Elimination of unpleasant cooking odors, greasy walls and foul, contaminated air in the house.
3. Minimizes house cleaning and redecorating.
4. Minimum ceiling opening, attractive grill.
5. Blo-Fan combines the efficiency of a fan with the power of a blower.
6. Trouble-free operation assured by totally enclosed motor, cooled by the air stream.

It's an architect's job to provide functional design in the kitchen... Look up to

Blo-Fan

ELECTRIC CEILING VENTILATOR

for the most efficient ventilation

PRYNE & CO., INC.

POMONA, CALIFORNIA

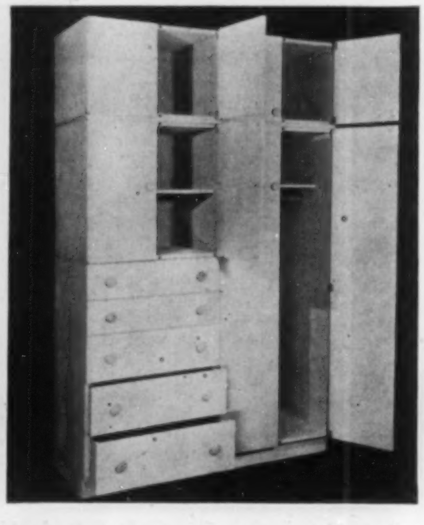
LOS ANGELES, CHICAGO
SAN FRANCISCO NEW YORK

(Continued from page 186)

attached to the window blind stop and a slide lock makes it easy to secure or remove the screen when desired. On the bottom bar is a tension catch which is fastened to the window sill, making the screen fit snugly.

In place of side frames the screening has a specially reinforced edge which gives rigidity and allows the tension catch to pull the screen tight against the window frame.

When windows need washing, loosening of thumb screws at the bottom of the screen allows it to swing freely, giving easy access to the window pane. New York Wire Cloth Co., 500 5th Ave., New York 18, N. Y.



Closets, cabinets made in a range of sizes

STORAGE UNITS

Nasco Series "21" is a group of seven scientifically designed wooden closets and cabinets in a range of sizes to make efficient use of any storage space. Each is a complete unit and can be used in any combination.

The seven pieces are made in five widths, 20, 24, 28, 32 and 36 in. Units include the upper storage, height 18 in., midsection, 27 in., five drawer chest, 45 in., small storage, 45 in., small wardrobe, 45 in., large wardrobe, 72 in., and large storage, 72 in.

These sectional units are made with solid knotty pine tops, bottoms and sides ¾ in. thick. The doors and fronts are clear white pine of five-ply panel stock and the backs are three-ply panels. Each unit is sanded and ready for finishing with stain, enamel or paint. All hinges are cadmium plated, rust-proof. Henderson-Ford Co., Inc., 402 E. 108th St., New York 29, N. Y.

(Continued on page 190)

SIEGFRIED GIEDION

author of *Space, Time and Architecture* charts the course of human progress as

mechanization takes command

This is the story of humble, everyday things—egg-beaters and washing machines, door locks and loaves of bread, refrigerated beef and barber chairs. Never before have they got into a history book, yet they have had a profound effect on history.

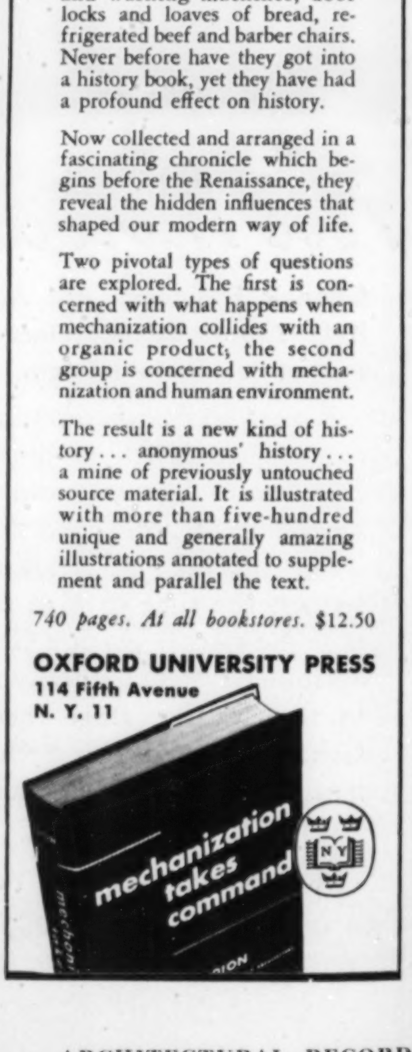
Now collected and arranged in a fascinating chronicle which begins before the Renaissance, they reveal the hidden influences that shaped our modern way of life.

Two pivotal types of questions are explored. The first is concerned with what happens when mechanization collides with an organic product; the second group is concerned with mechanization and human environment.

The result is a new kind of history . . . anonymous' history . . . a mine of previously untouched source material. It is illustrated with more than five-hundred unique and generally amazing illustrations annotated to supplement and parallel the text.

740 pages. At all bookstores. $12.50

OXFORD UNIVERSITY PRESS
114 Fifth Avenue
N. Y. 11



Facts about "Pittsburgh's"

HERCULITE

DOOR-FRAME ASSEMBLY

"Pittsburgh's" new, prefabricated Herculite Door-Frame Assembly is as practical as it is simple. It offers a "packaged" door frame which eliminates all problems of setting and fitting. This is a completely assembled frame—in *one unit*. No assembly is necessary on the job. It replaces the complicated, custom-made frames which required many different kinds of materials and the services of various trades to install.

One of the sturdiest and handsomest extruded structural shapes ever designed, this Door-Frame Assembly comes in twelve standard styles. It's constructed to accommodate standard Herculite Tempered Plate Glass Doors. It's supplied complete with checking floor hinges and top pivots, ready to bolt into the rough building opening. All clearances on frame and doors are controlled by accurate factory gauges. When the building is ready for the doors, they are simply set on the hinge pivot, the top pivot is dropped into the top channel and the structure is complete!

Get full information on this revolutionary, prefabricated door-frame assembly simply by filling in and returning the coupon. Do it now.

The frame is made of extra-heavy extruded aluminum, highly polished and anodized. It's heavily reinforced with steel channels and tie rods, as partially shown here.

Pittsburgh Plate Glass Company
2189-8 Grant Building, Pittsburgh 19, Pa.

Please send me your literature on "Pittsburgh's" new Herculite Door-Frame Assembly. There is no obligation on my part, of course.

Name..

Address..

City.............................. State..............

PAINTS · GLASS · CHEMICALS · BRUSHES · PLASTICS

PITTSBURGH PLATE GLASS COMPANY

YOU PROVIDE
YEARS OF
PROTECTION

for
Masonry Walls
WHEN YOU
SPECIFY

Cabot's
Clear
Waterproofings

Cabot's time-proven waterproofings protect masonry from efflorescence, prevent spalling and disintegration and interior leakage, due to moisture absorption. They actually penetrate deep into the surface of the masonry and *completely seal* voids and pores.

Walls treated with Cabot's Clear Waterproofings are still moisture proof after twenty years of rough weather!

Cabot's
Clear Brick
Waterproofing
for brick and dark colored masonry above grade.

Cabot's
Clear Cement
Waterproofing
for cement, stucco, stone and light-colored masonry.

Write Today for sample and complete information to Samuel Cabot, Inc., 2185 Oliver Bldg., Boston 9, Mass.

Cabot's
Clear Waterproofings

(*Continued from page 188*)

GLASS BLOCK FILM

To demonstrate the use of *Insulux* glass block in increasing construction applications, American Structural Products Co. is presenting a new 16 mm. color film, "Walls of Daylight."

The film, with running commentary, offers the story of glass block from the factory to completed installations in industrial and commercial plants, institutions, schools, office buildings and homes.

Shown are exteriors and interiors of buildings, each illustrating specific advantages obtained by the use of glass block. Also shown is the new type of schoolroom fenestration recommended by the manufacturer.

This film serves as a screen introduction to another new film, "Mortar and Glass" which deals with the correct procedure in installing glass block panels.

Both films are available to architects, builders and contractors. Sales Promotion Dept., American Structural Products Co., Toledo 1, Ohio.

School room fenestration shown in movie

HEATER FOR QUONSETS

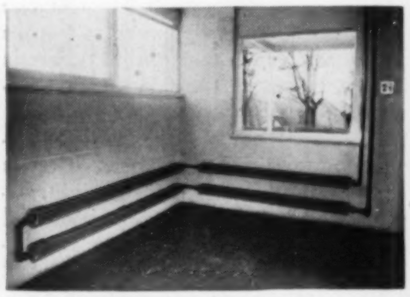
Oil-burning heaters designed for Quonset structures by Dravo Corporation are claimed to be flexible for adaption to changes in floor plans. The heaters can be moved or reconnected in a few hours and ducts can be attached to discharge nozzles to carry warm air to definite areas.

The heater operates on a principle of "working level recirculation" of warm air. With this method, air is drawn into the base of the heater from the floor and is passed first over economizer tubes which extract a maximum amount of energy from combustion gases before

(*Continued on page 192*)

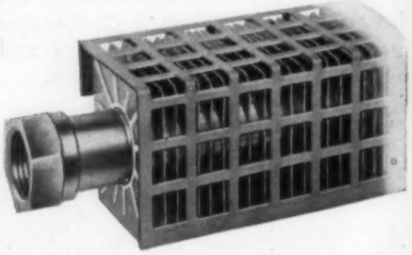
Warm Spot in January Cold Wave

Hundreds of *formerly* "hard-to-heat" buildings . . . places that used to be cold even in normal winter weather . . . were oases of warm comfort during the January-February cold wave thanks to a post-war Webster development—Webster Type WI Extended Surface Radiation for hot water and two-pipe steam service.



Installation in Gardener's Cottage

Using modern materials, copper tubing and aluminum fins, Type WI Radiation provides better than a square foot of heating surface for each 1/2 lb. of weight. Takes up negligible space. Can be put where the heat is needed—along the wall, close to the floor, behind benches.

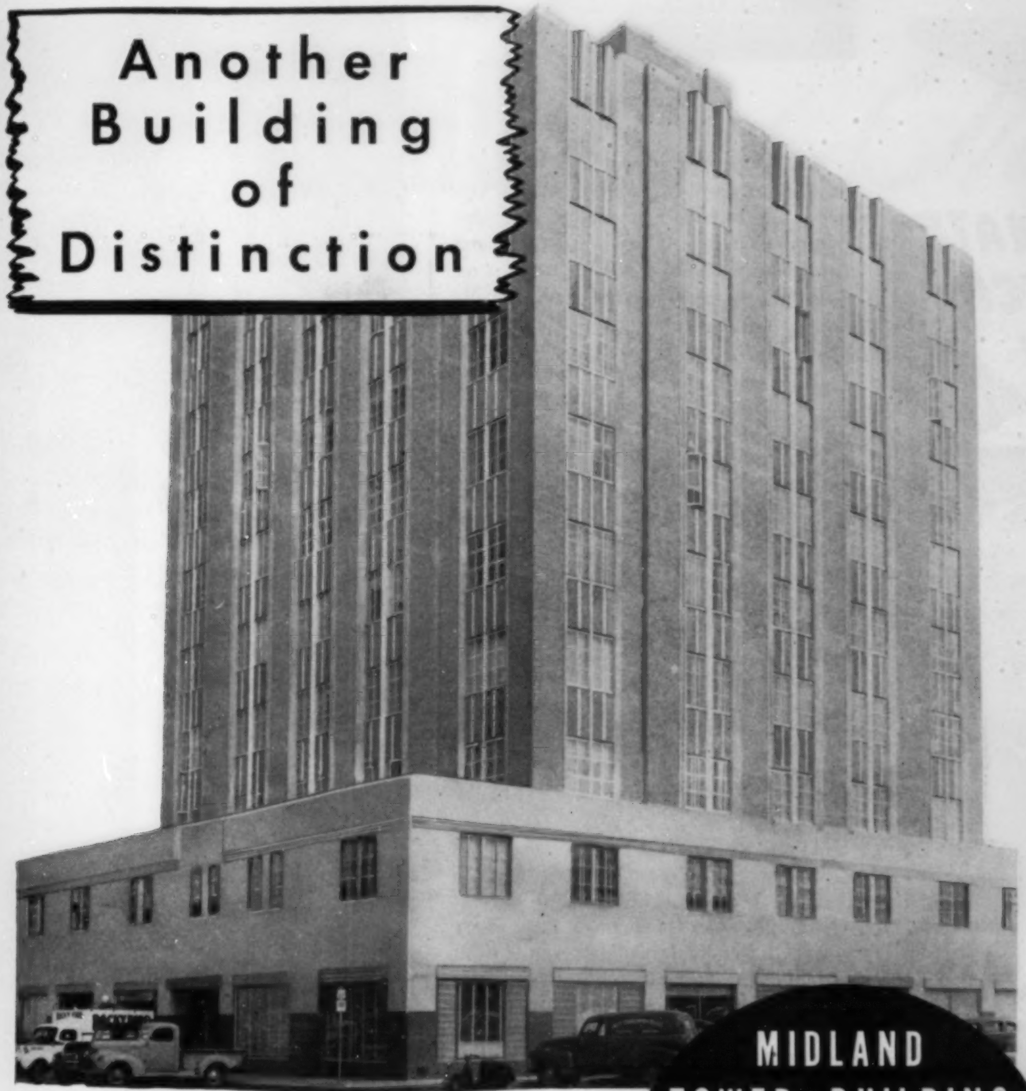


Take steps *now* while the memory of your cold weather difficulties is fresh in mind. See if Webster Type WI Radiation can be used to turn your cold spots into areas of next winter comfort. Good delivery now.

WARREN WEBSTER & CO.
Camden, N. J. : : Representatives In Principal Cities
In Canada: Darling Brothers, Limited, Montreal

Webster
HEATING

Another Building of Distinction



MIDLAND TOWER BUILDING
Wyatt C. Hedrick, Architect-Engineer,
Fort Worth, Texas
J. W. Bateson, Contractor, Dallas, Texas

MIDLAND
TOWER BUILDING
Equipped with
BROWNE
folding type
aluminum
WINDOWS

OTHER BROWNE WINDOW TYPES
Psychiatric — Monumental
Underwriters' Label — Residential

Browne folding type windows give your building a high classification that enables better revenue and higher rents. Built of heavy aluminum extrusions, they are chosen by architects everywhere on the basis of all 'round utility and permanent beauty. In addition, Browne windows give 100% controllable draft-free ventilation with maximum light and vision.

Miracles in Metals

see our CATALOG in SWEET'S FILE for BUILDERS

NO DRAFT . . .
"V" flue accelerates intake of air at the bottom and exhausts stale air at the top.

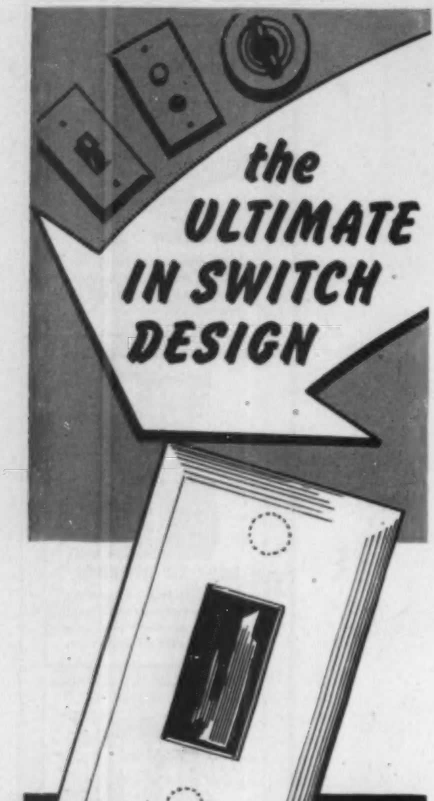
EASY TO OPERATE
No reaching or bending . . . no tugging or lifting. Browne windows give permanent ease of operation.

MINIMUM MAINTENANCE . . .
Famous "Alumilite" finish retains its striking beauty year after year with no maintenance . . . merely wipe with a damp cloth occasionally.

EASY TO CLEAN
Both sides of glass can be cleaned from the inside which eliminates need of professional window washers.

Browne folding windows are manufactured exclusively by Universal Corporation in Dallas, under the trade name Sealuxe: Browne folding type windows. Double hung windows. Side hinged casements. Thermo windows and shades. Theatre display systems.

Universal
CORPORATION
J. P. TRAVIS, PRESIDENT
6710 DENTON DRIVE
Qualified sales representatives in all architectural centers.
DALLAS 9, TEXAS



the ULTIMATE IN SWITCH DESIGN

TOUCH-PLATE
LOW VOLTAGE
LIGHT CONTROL SYSTEM

Smooth, simple, streamlined beauty is one of the great features of the amazing new Touch-Plate switch...but it's only a by-product! Operating with a feather-touch on and off action, low voltage Touch-Plate switches require no conduits...allow for any combination of multiple controls at virtually the same cost as old-fashioned installations! Let us tell you the whole story....

CONVENIENCE
BEAUTY
SAFETY

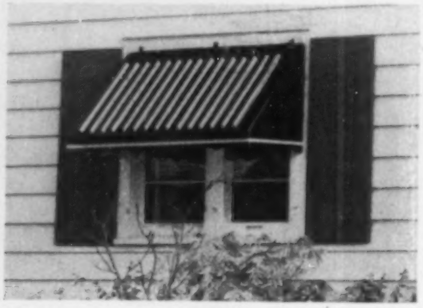
Approved by Underwriters' Laboratories

THE RELAY DOES THE WORK!

TOUCH-PLATE
DISTRIBUTORS, INC.
2038-42 Bay Street
Los Angeles 21, California

(Continued from page 190)

they are vented. Then the partially warmed air moves upward within the heater and sweeps a stainless steel combustion chamber. The air is discharged through directional discharge nozzles on top of the unit. Dravo Corp., Neville Island, Pittsburgh 25, Pa.



Awning louvers, adjusted by a control arm, permit any degree of light and ventilation

METAL AWNING

Several unique features are offered by a steel awning recently introduced in Canada. Moveable, interlocking louvers are mounted on its inclined face. They may be adjusted for any degree of light and ventilation by means of a control arm extending through the window frame into the house. Criticisms of conventional type awnings (that they darken rooms and pocket hot air) are thus eliminated.

After fabrication the steel is bonderized, then finished with three coats of baked enamel, with colors to order. Usually the tops of alternate louvers are enamelled in matching shades so as to create a striped effect. The underside of the awning is always finished in white to give maximum light reflection. All mechanical parts are made of rustproof metal.

Since the awnings are permanently fixed in place, there are no problems of handling and storage. Koolside Products Ltd., 279 Vaughan Rd., Toronto, Ont.

CONCRETE PAINT

A new heavy-duty, long-wearing synthetic paint that protects concrete with an abrasion-resisting coating is claimed not to check, crack or "dust." The new paint is said to dry to a glossy finish in three to four hours and will resist acids, alkalis and extreme degrees of heat and cold. Besides forming a protective coat on concrete, the paint can also be applied to exposed metals, machinery, boilers and pipes. Lowebco, Inc., 1525 E. 53rd St., Chicago 15, Ill.

(Continued on page 194)

HILLYARD PRODUCTS PROTECT FLOORS AND OTHER SURFACES FROM THE ROOF TOP TO THE BASEMENT
★
THEY ARE DEPENDABLE UNIFORM ECONOMICAL SAVE TIME

Hillyard Non-skid Floor Treatments, and Economy Maintenance Materials properly care for and make attractive all types of floors in every type of institution . . . give entire satisfaction with less labor. Write for our new "Job Specification" Booklet. It is sent FREE upon request.

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HILLYARD CHEMICAL CO. ST. JOSEPH, MO.
470 Alabama St., San Francisco, Calif. 1947 Broadway, New York 23, N. Y.

skylines . . . by Otis

In Cleveland, good citizenship has not only made good government, it has also produced one of the nation's finest cultural centers. And commercially, the great competitive spirit which has made Cleveland our sixth largest city is reflected in its constantly expanding skyline. Here again, a famous skyline also marks the progress of Otis. Two-thirds of the elevator installations in Cleveland are by Otis. The latest count is 2,560!

RISING WRATH.

Supervisors in a European shoe factory are never called 'on the carpet.' It calls on them. How so? The owner has his office in an elevator. Whenever there's trouble his office and his wrath rise together.

TIME FOR EVERYTHING.

What happens as you wait for an elevator?
Traffic engineers say you feel pretty good for 20 to 30 seconds.
Your collar gets hot in 30 to 60 seconds. After a minute? You really blow your top. What to do about sluggish service?
Otis modernization!

ONE LESS WORRY.

Seems there's no end to the 'unpredictable predicaments' in a hospital. But it really isn't so. Good elevator service can be predictable. How? With Otis elevator maintenance. It's keeping the elevators in 1429 hospitals doing the job they were built to do – continuously and safely. Want to know about it?

Have you been wondering about the magic that modern electronics will introduce to the postwar world? Watch Otis. We're first again with something new in electronic elevatoring!

Otis **ELEVATOR COMPANY**
Home Office: **260 11th Ave., New York 1, N. Y.**

IN-SINK-ERATOR
Garbage Disposer
Model "900"!
WITH SIMPLIFIED ELECTRICAL HOOK-UP FOR EASIER INSTALLATION

IN-SINK-ERATOR
1948

The IN-SINK-ERATOR Model "900," built on the integral design principle employed by IN-SINK-ERATOR for ten years (longer than any other in the disposer field) comes complete with a positive acting, reversing control switch and a simplified electrical hook-up for easy installation in custom dwellings or project housing. IN-SINK-ERATOR's automatic reversing action, complete self cleansing streamlined design and two-directional shredding have set the pace for ten years. It's the disposer the plumber likes, too . . . because it's distributed EXCLUSIVELY THROUGH PLUMBING CHANNELS.

House & Garden
Better Homes
HOMES
House Beautiful

● The IN-SINK-ERATOR story will be repeated to consumers 23,000,000 times in five of the leading household magazines in the country during 1948.

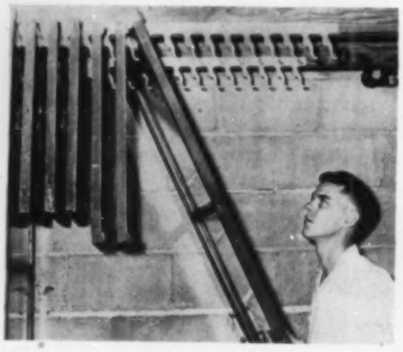
IN•SINK•ERATOR
MANUFACTURING CO. RACINE, WIS.

Exclusive Manufacturers of Automatic Garbage Disposers Since 1938

(*Continued from page 192*)

ADHESIVE FOR TILE

One of the outstanding characteristics of a recently developed adhesive for tile is said to be its unusually low shrinkage factor. This quality aids in preventing the face of metal and plastic tile from becoming concave. The non-putty material can be used around bathtubs and moisture areas where its water resistance prevents breakdown of its adhesive qualities. The cement is sufficiently slow-setting so that tile can be applied to it up to three or four hours after it has been applied to the wall. Armstrong Cork Co., Lancaster, Pa.



Brackets fastened to overhead joists store up to 21 storm window and screen sashes, protecting them from damp floors

SASH BRACKETS

Storm window and screen sashes can be protected from damp garage or basement floors through use of *Stor-A-Way* brackets. These brackets, which are fastened to overhead joists, can hold sashes either horizontally or vertically, depending on how the brackets are mounted.

Once hung, the sash cannot drop; it is necessary to swing the bottom of the sash out 30 degrees from the vertical to either hang it or take it down.

Each set of four brackets holds 21 windows or screens. They are made of heavy gauge aluminum. Barber Mfg. Co., Inc., 5710 Nicollet Ave., Minneapolis 9, Minn.

LAMP TRANSFORMER

A transformer engineered for fluorescent lamps of long, slim design incorporates a principle which permits maintenance of rated lumen output regardless of wide variations in line voltage. Due to the patented circuit, slim design lamps start easily with low or high primary voltages. Sola Electric Co., 4633 W. 16th St., Chicago 50, Ill.

A.W. FABER CASTELL
S.A. 9400 2H

LOOK-One Hand!
A.W. Faber's quick-action
(black or colored)
LOCKTITE
refill drawing pencil
works with a flip of the thumb

1). Patented collet to hold lead in bull-dog grip.
2). One-hand clutch operation to avoid touching lead and smearing fingers.

These are but two exclusive features which make LOCKTITE the favorite of professional men. Collet prevents lead breaking or slipping. Try this clean, balanced, sturdy mechanical beauty and you will surely want to own it.

Holds all standard graded drawing or retouching leads. Winner Techno-TONE No. 1930 assures best results.

ALSO AVAILABLE IN RED, BLUE, GREEN, YELLOW, CARMINE, ORANGE and WHITE —holding hardy WINNER Techno-TONE crayon leads for coloring, sketching and checking.

BLACK in degrees 4B to 9H. Sold at Stationers', art and drawing supply stores, photo supply shops and Blueprinters.

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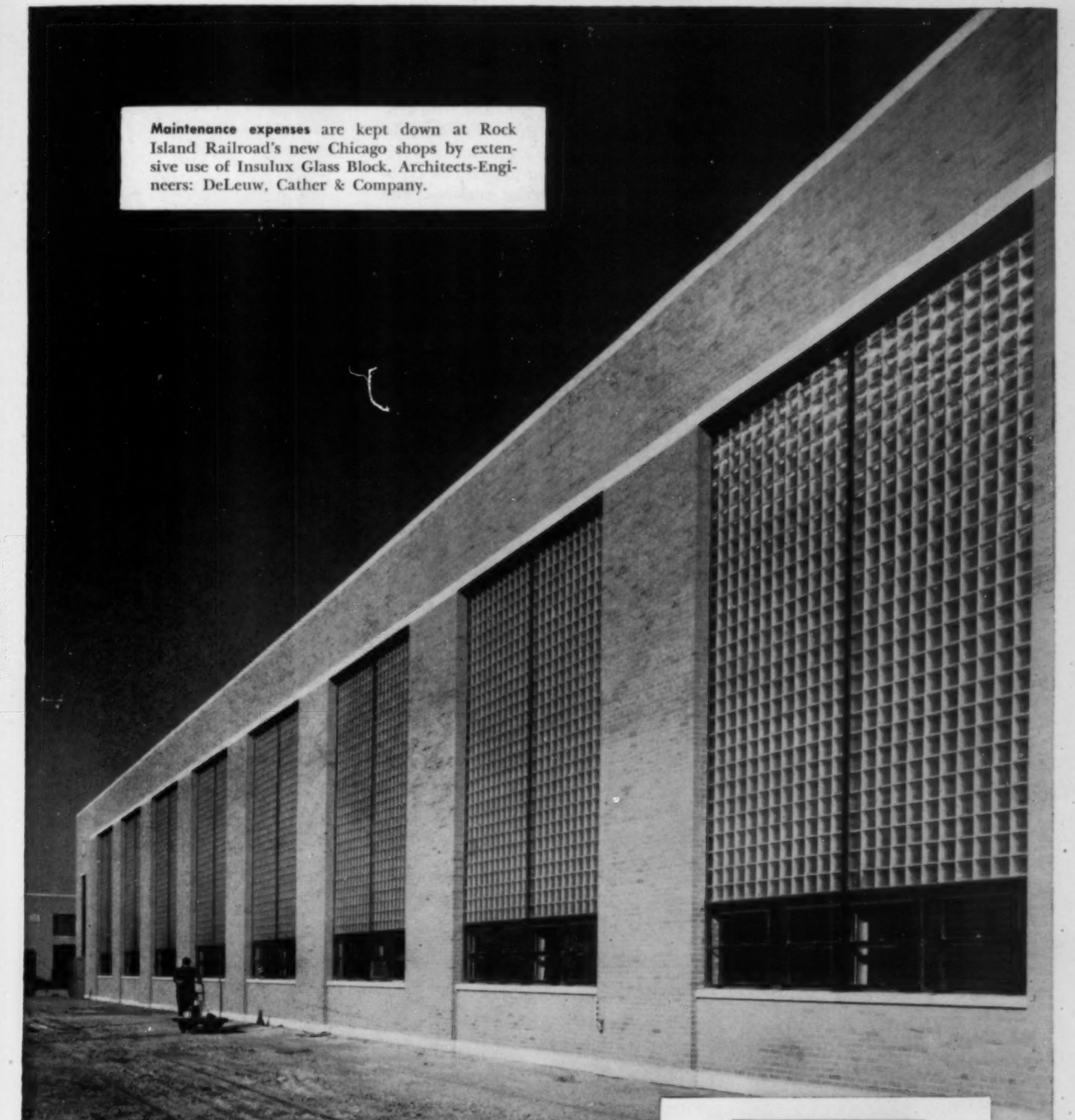
A.W. FABER-CASTELL
PENCIL COMPANY INC., NEWARK 4, N.J.



Maintenance expenses are kept down at Rock Island Railroad's new Chicago shops by extensive use of Insulux Glass Block. Architects-Engineers: DeLeuw, Cather & Company.

Glass Block reduces maintenance costs: Insulux Glass Block is solving real problems for maintenance-conscious railroad men. Light-transmitting panels of Insulux resist the destructive effects of smoke, soot, and moisture. They require a minimum of maintenance. Real savings result.

Insulux is versatile. It transmits light, insulates, and reduces transmission of noise. Does not rot, rust or corrode. Eliminates the need of painting every two or three years.

For technical data and installation details, consult GLASS section of Sweet's Architectural Catalog, or write Dept. E-7, American Structural Products Company, P. O. Box 1035, Toledo 1, Ohio.

INSULUX

GLASS BLOCK

AMERICAN STRUCTURAL PRODUCTS COMPANY

Subsidiary of

OWENS-ILLINOIS GLASS COMPANY

OIL ALLOTMENTS GO FURTHER WITH TODD BURNERS

★

• Stretch your oil supply by replacing obsolete equipment with Todd Burners. Avail yourself of the years of experience of Todd engineers.

Oil Burners
Gas Burners
Combination Oil and Gas Burners

COMBUSTION EQUIPMENT DIVISION
TODD SHIPYARDS CORPORATION
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NEW YORK • BROOKLYN • ROCHESTER HOBOKEN • NEWARK • PHILADELPHIA HARRISBURG • YORK • CHICAGO • CHARLESTON, S. C. • BOSTON • SPRINGFIELD, MASS. BALTIMORE • WASHINGTON • DETROIT • GRAND RAPIDS • TAMPA • GALVESTON • MOBILE • NEW ORLEANS • LOS ANGELES • SAN FRANCISCO SEATTLE • MONTREAL • TORONTO BARRANQUILLA • BUENOS AIRES • LONDON

(*Continued from page 150*)

than 100 colors to harmonize with fabrics, draperies and floor coverings. In addition to paint mixing formulas, specifications are given for painting all types of interior and exterior surfaces. The Obrien Corp., 101 N. Johnson St., South Bend 21, Ind.*

Wax-fortified Interior Finish. Light reflectance readings for each color shown is a feature of the new color card for *Wax-Fortified Interior Finish.* These readings indicate the actual percentage of light reflected by each of the 34 colors and tints. The new paint incorporates wax in gloss, semi-gloss and eggshell flat finishes. 6 pp., illus. S. C. Johnson & Son, Inc., Racine, Wis.

Acoustical Materials

Sound Absorption Coefficients of Architectural Acoustical Materials (Bulletin X). Noise reduction coefficients and light reflection values are listed for products manufactured by members of the Acoustical Materials Assn. A short table of noise reduction coefficients for other common materials used for finishing interiors is also given. 12 pp. Acoustical Materials Ass'n, 205 W. Monroe St., Chicago, Ill.

Whistles and Signals

Engineering, Operating and Maintenance Data on Leslie-Tyfon Whistles and Signals (Bulletin No. 466). Design and operation of whistles and signals for industrial plants as well as intra-plant and departmental signals are given together with installation and maintenance practices. 12 pp., illus., Leslie Co., 57 Delafield Ave., Lyndhurst, N. J.

Wiring Devices

Bryant Catalog No. 48. Revised catalog of Bryant line including switches, outlets, connectors, lamp holders and wall plates. The Bryant Electric Co., Box D, Barnum Station, Bridgeport 2, Conn.*

Steel Panels

Fenestra Building Panels for Up-To-Date Houses. Folder providing information about *Fenestra* steel panels that combine joist, bridging and subflooring. Floor covering and use with radiant heating are discussed. 4 pp., illus. Detroit Steel Products Co., 2250 E. Grand Blvd., Detroit 11, Mich.*

Rolling Doors

Kinnear Rolling Doors. Construction details, installation types, operating methods and specifications make up a large part of this new catalog. Among

(*Continued on page 198*)

HOW TO SPECIFY A FENCE THAT'S BETTER IN 4 WAYS!

1 **Deep-Driven Anchors** hold the fence permanently erect and in line, yet can easily be relocated.
2 **Square Frame Gates** remain free from sagging and warping.
3 **U-Bar Line Posts** are rust-free, rigid and self-draining.
4 **Square Terminal Posts** improve strength, durability and appearance.

ANCHOR CHAIN LINK FENCE rates a top spot on your "spec" list for features like these! To your clients, they mean extra years of all-out protection. And they are *your* assurance of specifying the best in fencing for factory, institution and home alike.

WRITE TODAY for your copy of "Anchor Protective Fences." It's both a catalog and specification manual for your A.I.A. File 14-K. Contains structural diagrams and specification tables, installation photos, many types and uses of Anchor Chain Link Fence. Just ask for Book No. 110. Address: ANCHOR POST FENCE DIV., Anchor Post Products, Inc., 6600 Eastern Ave., Baltimore 24, Maryland.

Anchor Fence
Nation-wide Sales and Erecting Service

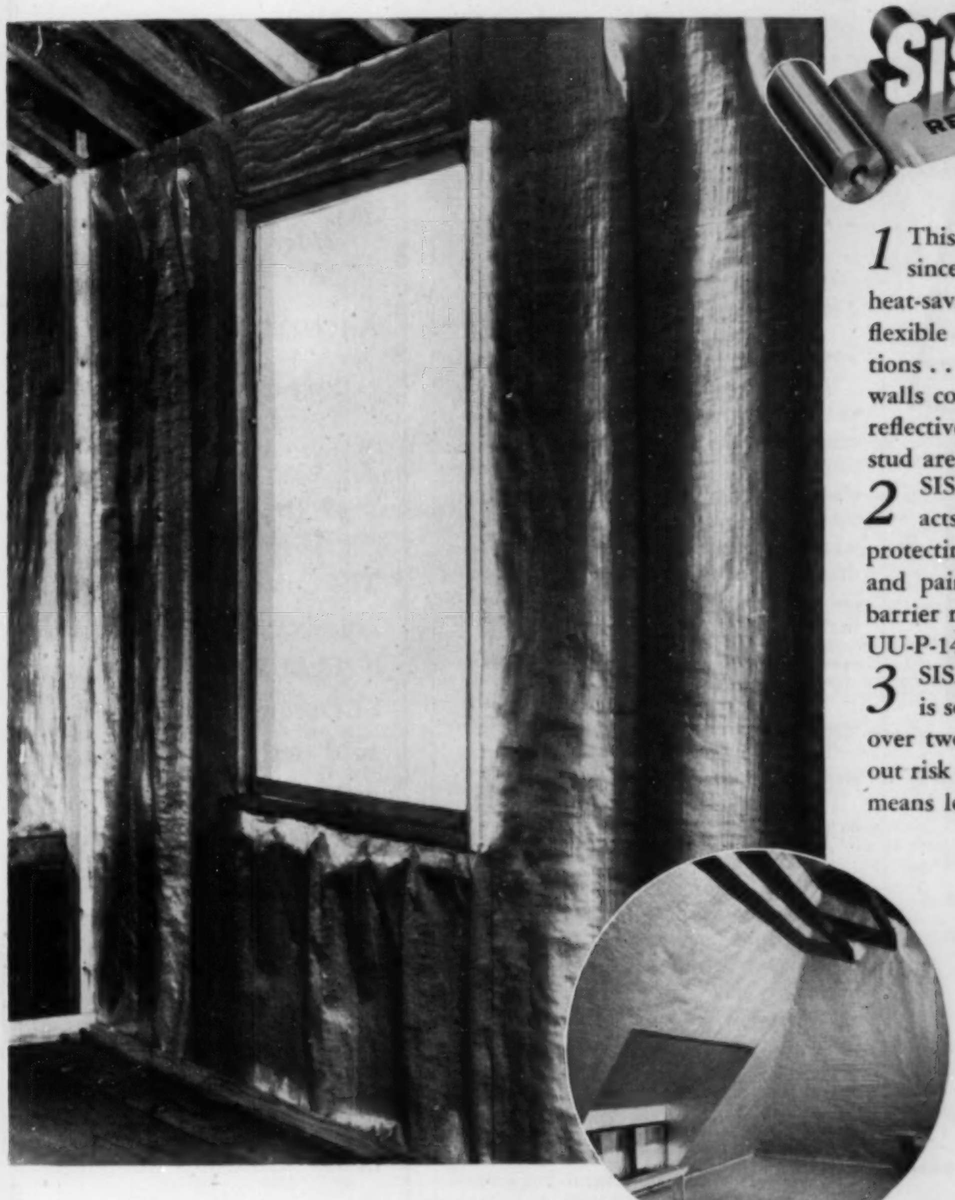
ONLY $25* per 1000 square feet for both Insulation and Vapor-Barrier

*(*approximate contractors' price)*

with

SISALATION
REFLECTIVE INSULATION

Available Now!



1 This modern insulation is effective, since SISALATION is equivalent in heat-saving values to about ¾-inch of flexible or rigid types of quality insulations . . . based on M.I.T. tests on sidewalls constructed with a single layer of reflective SISALATION applied in the stud area.

2 SISALATION, at the same time, acts as a VAPOR-BARRIER, thus protecting against dry-rot, condensation and paint failure. Meets FHA vapor-barrier requirements, Class A, Fed. Spec. UU-P-147.

3 SISALATION, heavily reinforced, is so strong that one man applies it over two stud spaces at one time without risk of SISALATION tearing. This means low application costs.

4 SISALATION deflects sun-heat and does not absorb or store up heat, thus keeping the home much cooler in summer. Makes attics more attractive and livable.

5 SISALATION is available NOW for prompt delivery through your lumber or building supply dealer.

The SISALKRAFT Co.
205 W. Wacker Dr., Chicago 6, Ill.
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San Francisco 5, Calif.

SK

SISALATION
REFLECTIVE INSULATION

The SISALKRAFT Co., Dept. AR
205 W. Wacker Drive, Chicago 6, Ill.

Please send me sample, more information, and tell me where I can buy SISALATION. I am an ☐ ARCHITECT ☐ CONTRACTOR

OTHER..........

Name..........

Address..........

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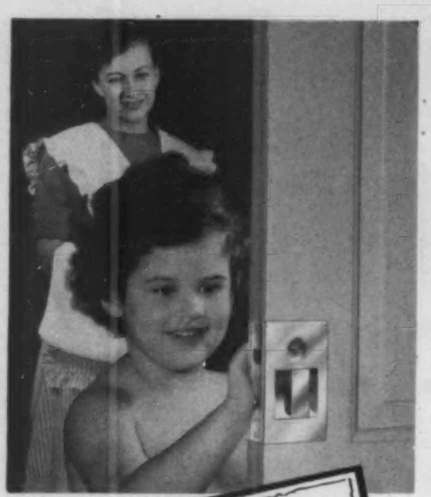

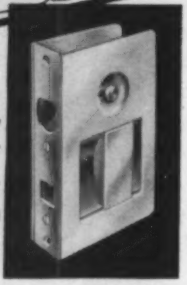

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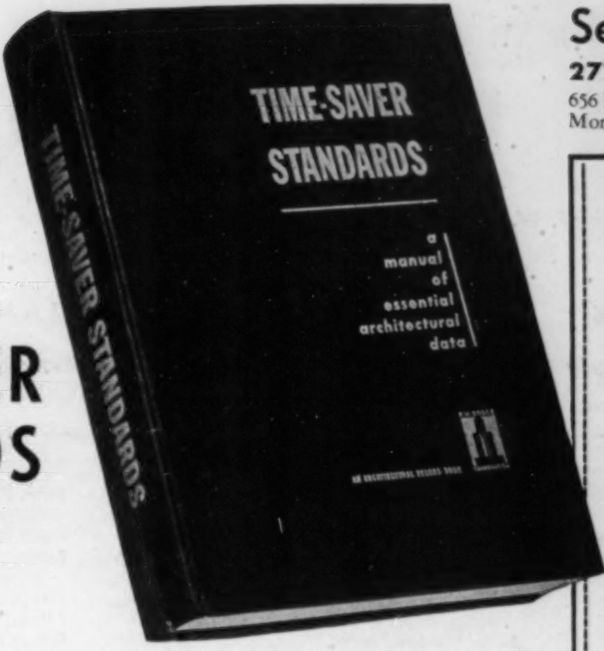

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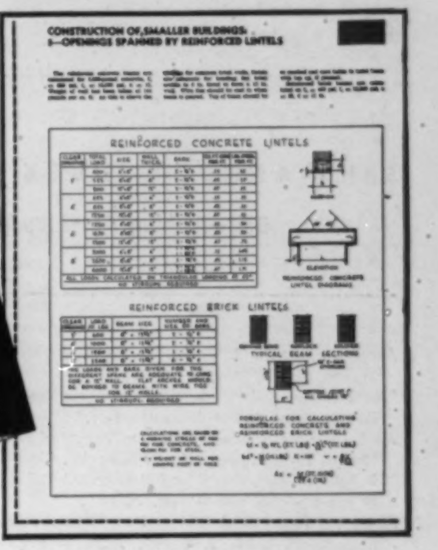
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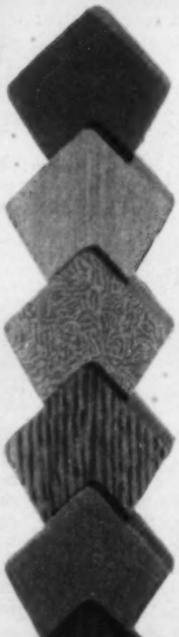

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